

EXAMINING STRESS AND COPING IN PARENTS OF CHILDREN WITH AUTISM  
SPECTRUM DISORDER

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## Abstract

Parents of children with Autism Spectrum Disorder (ASD) are at risk for experiencing elevated levels of distress; coping has been shown to moderate parents' experience of distress, but popular instruments of both stress and coping have not been well-validated in the ASD population. Previous research on a commonly-used measure of parental distress, the Parenting Stress Index – Short Form (PSI-SF), has shown that its three subscale model does not adequately explain data from parents of children with ASD. The goal of the current study was to further examine the psychometric properties of the PSI-SF and to examine the psychometric properties of an instrument that measures coping – namely, the Family Crisis Oriented Personal Evaluation Scales (F-COPES) – using a large, community-based sample of parents of 1,790 children with ASD obtained from archived screening assessments conducted over a decade and a half (2000 – 2016). Further, the large sample provided an opportunity to examine separately the responses of fathers, which has been a gap in the literature. First, the factor structure of each questionnaire was examined in mothers and fathers separately using confirmatory factor analysis (CFA) to evaluate the fit of the model of the questionnaires as published. As expected from previous research with smaller samples, the fit indices differed from the original validation structures published in the test manuals with identified subscales shown to be lacking psychometric verification. Exploratory factor analysis (EFA) was then completed on half of each sample (mothers and fathers separately) to examine other models for improved fit. After new factor structures were developed, these models were examined using CFA on the other half of the sample for cross-validation. Based on these analyses, a 5-factor model was developed for the PSI-SF (General Parental Distress, Behavioural Regulation, Reciprocity, Child Limits, Perceived Disagreeable Behaviour) and a 7-factor model was developed for the F-COPES (Social Support

from Friends and Family, Self-Efficacy, Religious Participation/Coping, Passive/Avoidant Coping, Formal Supports, Supports from Neighbours, Acceptance), with the factors defining the same subscale pattern for mothers and fathers. Finally, child and demographic factors (age, sex, adaptive behaviour, autism symptom severity, and socioeconomic status) were evaluated as potential predictors of the newly developed PSI-SF and F-COPES subscale scores in mothers and fathers. The findings of this large clinical sample research have important applications for instrument subscale revisions to improve measurement and have implications for theoretical models of parental stress and coping. Future research might explore some of the preliminary findings of differences between mothers and fathers in predictors arising from newly proposed subscales of family distress and coping.

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## **Examining Stress and Coping Profiles in Parents of Children with Autism Spectrum Disorder**

Autism spectrum disorder (ASD) is a neurodevelopmental disorder involving impairments in social communication (i.e., social-emotional reciprocity, nonverbal communication, and social relationships) and repetitive behaviours and interests (i.e., routines and rituals, restricted interests, and sensory issues) (DSM-5; American Psychiatric Association, 2013). Parents of children with ASD are at risk of experiencing elevated levels of distress. These parents have been shown to experience higher levels of stress than parents of typically developing children or children with other disabilities. It has been proposed that these differences may be due to the core deficits of ASD (e.g., impairments in social communication and social skills, difficult and repetitive behaviours) leading to more distress in parents (e.g., Bromley et al., 2004; S. A. Hayes & Watson, 2013), suggesting that comparing scores of parents of children with ASD and typically developing children on the same measure, scored in the same way, may not be appropriate. As these differences in distress have been well researched and documented, having a valid and reliable way to measure stress and coping specifically for parents of children with ASD is important. The inclusion of fathers in this endeavor is also important as they have generally had limited involvement in past research (S. A. Hayes & Watson, 2013).

Just as children with ASD have highly variable outcomes (e.g., Freeman & Perry, 2010; A. Perry et al., 2008), there is also heterogeneity in their parents' outcomes, with some parents experiencing relatively low levels of distress and others experiencing high levels of distress. The coping strategies parents utilize can play an important role in parents' management and experience of stress (Lyons et al., 2010). The purpose of this dissertation is to examine two commonly used measures of parental stress and coping – the Parenting Stress Index – Short

Form (PSI-SF; Abidin, 1995) and the Family Crisis Oriented Personal Evaluation Scales (F-COPES; McCubbin et al., 1991) – along with predictors of parental distress and coping using a large, community-based sample of mothers and fathers of children with ASD.

## **Stress**

There are several different meanings and conceptualizations of stress in the literature. When stress is conceptualized as an outcome, it is often represented by *distress*, or an individual's negative experience of stress. Stress can also be conceptualized as a stimulus, in which case it is typically represented by the term *stressor*, which is an event or situation that can be considered stressful or distressing. It is important to note that the presence of stressors does not directly relate to the experience of distress. The Perry (2004) model of stress in families of children with developmental disabilities (DD) posits that the experience of distress can be influenced by several factors. According to the model, stressors (both related to the child [e.g., age, IQ, behaviour problems] and other life stressors [e.g., financial burdens, employment stressors]) are mediated by *resources* (individual or personal and family systems resources) and *supports* (informal and formal supports) in their impact on parent outcomes. These outcomes can be both positive (e.g., having a new sense of purpose in life) and negative (i.e., distress) (see Figure 1). It has been demonstrated that positive and negative outcomes do not represent opposite ends of the same continuum, but rather can have distinct determinants themselves. The presence of distress (negative parental outcome) does not preclude individuals from also experiencing positive outcomes and vice versa (A. Perry et al., 2012).

Bluth et al. (2013) adapted Perry's (2004) model to focus more specifically on parents of children with ASD, rather than DD more generally, in addition to incorporating aspects of each parent as an individual and the parents as a couple into the model (see Figure 2).

While these models provide a framework with which to conceptualize parental distress both in individual parents and parenting couples, it is still unclear why some parents experience more elevated levels of distress than others. In part, this uncertainty is present because most studies do not have adequate sample sizes to examine a wide range of predictors of distress. A range of factors that have been examined as predictors of distress will now be reviewed, followed by a discussion of the construct of coping and related research.

### ***Predictors of Distress***

Enea and Rusu (2020) conducted a recent systematic review of literature published between 2012 and June 2018 to examine predictors of parenting stress for parents of children with ASD. This review included 45 peer-reviewed articles examining parenting stress in parents of children with ASD, using a validated measure of parenting stress. Research published prior to this review had found child characteristics to be the most commonly examined, including cognitive impairment, behaviour problems, and adaptive deficits (Karst & van Hecke, 2012). In publications included in this recent systematic review, the most commonly used measure of parenting stress was the PSI-SF (Abidin, 1995), utilized in 69% of the included studies. Several child characteristics were examined as predictors of parental distress including problem behaviour, child age and sex, cognitive abilities, adaptive behaviour, autism symptom severity, sensory processing difficulties, and sleep difficulties. Parent characteristics were also examined including parent gender, age, marital status, education level, and coping strategies (Enea & Rusu, 2020).

Previous research examining predictors of parental distress in children with ASD has shown that child factors (e.g., adaptive and maladaptive behaviour and ASD symptom severity) account for up to 37% of the variance in parents' experiences of distress as measured by the

Parental Distress subscale of the PSI-SF. Child problem behaviour was the only significant unique predictor of parental distress identified in a study by Brei et al. (2015); however, the sample was quite small ( $n = 40$ ). Another study demonstrated a bidirectional relationship between parenting stress and child problem behaviour (Zaidman-Zait et al., 2014). There were conflicting results with regard to impact of several other predictors (Enea & Rusu, 2020).

Child age demonstrated mixed results as a predictor of parental distress (Enea & Rusu, 2020). Some studies have shown that parents of older children experience elevated levels of distress (Rivard et al., 2014), while other studies did not demonstrate a relationship between child age and distress (McStay et al., 2014b; Valicenti-Mcdermott et al., 2015). Limited findings were reported related to child sex, with Rivard et al. (2014) finding that fathers of daughters with ASD reported higher distress than those with sons.

Children's cognitive abilities were associated with parental distress in mothers (Rivard et al., 2014). Rivard et al. (2014) also found that children's adaptive behaviour predicted maternal and paternal stress (as measured by the PSI-SF). However, Giovagnoli et al. (2015) did not find the same association in a preschool sample, suggesting that there may be a moderating effect of child age.

Several studies have demonstrated evidence indicating that autism symptom severity predicts parental distress (e.g., Bromley et al., 2004; Firth & Dryer, 2013; Hastings, 2003; Lecavalier et al., 2006; Lyons et al., 2010; Rivard et al., 2014), whereas other studies have not found evidence of this relationship (e.g., Giovagnoli et al., 2015; McStay et al., 2014a).

In terms of parent factors that are related to parental distress, younger parental age was associated with higher levels of distress (Dardas & Ahmad, 2014; Derguy et al., 2016; Falk et al., 2014). Findings regarding parent gender were mixed; however, fathers are often not included in



research, and when they are, they often make up proportionally less of the sample than mothers. Some studies found no significant differences between mothers and fathers, while other studies showed that mothers generally have higher levels of distress than fathers (Enea & Rusu, 2020). Rivard et al. (2014) reported that a higher proportion of fathers scored in the clinical range on the PSI-SF than mothers (61% of fathers compared to 54% of mothers). Maternal level of education, which has been incorporated into measures of socioeconomic status (SES) (Barratt, 2012), was not significantly related to parenting stress in one study (Valicenti-Mcdermott et al., 2015); however, Rivard et al. (2014) did find maternal level of education associated with maternal distress.

These studies provide valuable information regarding predictors of parental distress in parents of children with ASD. Several of these important factors have demonstrated mixed findings across studies which could be due to limited sample sizes, differences in measurement methods, and differences or limitations in the variability across and within samples. Given the mixed results, children's adaptive behaviour, autism symptom severity, age, and sex, along with socioeconomic status (SES) were included in the current study to further elucidate the predictive nature of these factors. In addition, each factor was examined separately in mothers and fathers based on previous findings of differences based on parent gender (e.g., McStay et al., 2014b; Rivard et al., 2014).

## **Coping**

Coping is one individual or personal resource factor that has been relatively well studied. Coping skills have the potential to ameliorate the experience of distress at both the individual and family level. Broadly, coping can be conceptualized into two classes: problem-focused coping and emotion-focused coping (Lazarus & Folkman, 1984). Problem-focused coping

involves engaging in active strategies to modify the stressful situation, for example, gathering information (via the internet or from professionals) or reaching out for helpful resources (such as intervention for the child or parent supports). Emotion-focused coping involves regulating emotions to modify the impact or perception of the stressor using, for example, avoidance and denial (Lazarus & Folkman, 1984).

Previous research has found a relationship between problem-focused or task-oriented coping strategies and lower levels of distress in parents of children with ASD (Dabrowska & Pisula, 2010; Diamond, 2005; M. E. Dunn et al., 2001). There has also been research demonstrating differences in the coping styles of mothers and fathers of children with ASD (Dabrowska & Pisula, 2010; Hastings et al., 2005). Mothers of children with ASD have been shown to utilize more emotion-focused coping than fathers, which has been related to elevated levels of distress (Dabrowska & Pisula, 2010). In the systematic review described above, mothers of children with ASD were shown not to have strong coping skills compared to the general population. Parents of children with ASD were shown to use active avoidance, positive reinterpretation, social support, religious coping, acceptance, and active coping more than parents of typically developing children (Enea & Rusu, 2020).

### ***Family Coping***

There is also literature based on a theory of family coping. The ABCX model (Hill, 1949) was the foundational model of family coping. It involved (A) an event that was a stressor, (B) the family's resources to handle the crisis, (C) the family's conceptualization and understanding of the event, and (X) the demand for change in response to the crisis. McCubbin and Patterson (1983) developed the Double ABCX model of family coping by expanding the ABCX model and including aspects of coping theory. The Double ABCX model involves (aA)

the stressor and other life demands (e.g., life stress, divorce), (bB) family resources available to meet their needs, for example personality factors within the family and social support, (cC) the meaning the family assigns, including reframing of the situation, (BC) coping (e.g., social support, spiritual support), and finally (xX) the outcome of family adaptation, ranging from positive (adaptation) to negative (maladaptation). McCubbin and Thompson (1991) also developed several brief questionnaire measures to assess family coping and related variables (e.g., Family Inventory of Resources for Management, Family Hardiness Index), including the F-COPES measure used in the present study.

This model has been evaluated using the F-COPES, along with other measures, in families of children with ASD, and the model was shown to predict family functioning (e.g., Manning et al., 2011; Paynter et al., 2013). Paynter et al. (2013) demonstrated that challenging behaviour, other life demands, internal and external resources, and coping styles predicted family outcomes. In addition to supporting the Double ABCX model, Manning et al. (2011) found that, while parents of children with ASD reported experiencing higher levels of distress than parents of typically developing children, parental distress and family functioning were positively impacted by family coping.

### **Measuring Parenting Stress and Family Coping**

The Parenting Stress Index – Short Form (PSI-SF; Abidin, 1995) and the Family Crisis Oriented Personal Evaluation Scales (F-COPES; McCubbin et al., 1991) (see Appendix C for questionnaires) are two commonly used measures of parenting stress and family coping, respectively. While there has been some evaluation of the PSI-SF in parents of children with ASD, most studies have been completed with non-ASD populations and the sample sizes of these previous studies have limited the statistical analyses conducted. The development and

construction of these questionnaires is important to consider when examining their psychometric properties.

### ***Parenting Stress Index***

The original long form of the Parenting Stress Index (PSI; Abidin, 1995) consists of 120 items (including 19 optional items surrounding life stress). Item responses on the PSI are given on a 5-point Likert-type scale ranging from *strongly agree* to *strongly disagree*. The long form of the PSI consists of a Child Domain (47 items), Parent Domain (54 items), and Total Stress score (based on all 101 items). The Child Domain consists of six subscales with five to 11 items per subscale (Distractibility/Hyperactivity, Adaptability, Reinforces Parent, Demandingness, Mood, and Acceptability) and the Parent Domain consists of seven subscales with five to 13 items per subscale (Competence, Isolation, Attachment, Health, Role Restriction, Depression, and Spouse). The Life Stress subscale provides information about the number of stressful life events parents are experiencing outside of the parent-child relationship.

The manual for the PSI (Abidin, 1995) reported internal consistency reliability estimates which were calculated for each subscale, domain, and the total stress score. Coefficient alpha for the Child Domain was .90 (subscale coefficient alpha ranged from .70 to .83 for the six subscales in the Child Domain) and .93 for the Parent Domain (subscale coefficient alpha ranged from .70 to .84 for the seven subscales in the Parent Domain). Coefficient alpha for the Total Stress score was .95. During the development of the measure, three principal components analyses were completed on the PSI with a sample of 534 mothers of children between 1 month and 19 years of age with separate analyses for the items in the Child Domain, the Parent Domain, and the 13 subscale scores. Forty-one percent of the variance among the 47 Child domain items was accounted for by a six-component solution. In the Parent Domain, a seven-component solution

accounted for 44% of the variance for the 54 items. A two-component structure accounted for 58% of the variance of the 13 subscale scores across both the Parent and Child Domains.

The manual provides brief summaries of several studies that examined the PSI with various groups including children with developmental issues, behaviour problems, disabilities and illness, cross-cultural studies, at-risk families, parent characteristics, family transitions, and marital relations. The manual also presents correlations between the PSI and other measures, including measures of depression, potential abuse, children's behaviour, and several family adaptability or coping scales. The manual reports that, in samples of parents of children with "Autism/Rett syndrome", parents rated themselves higher than the normative sample in terms of their level of stress. Perry et al. (1992) reported that between 23% and 31% of parents with children with Rett syndrome scored in the clinical range (around the 90<sup>th</sup> percentile) on the Attachment, Isolation, Spouse, and Health subscales of the PSI. While the manual has reported the Perry et al. (1992) study as "Autism/Rett syndrome", the original article reports a sample of 29 girls with Rett syndrome, a very severe disorder formerly grouped with autism. The other study referring to autism in the PSI manual showed that parents of children with externalizing behaviour report as much stress as parents of children with autism and that both groups rate themselves higher on stress than the normal group (Abidin, 1995). While a strength of the PSI is that its manual refers to the measure being used with parents of children with autism, it does not provide clear information surrounding the validity of the measure in parents of children with ASD.

The Parenting Stress Index-Short Form (PSI-SF; Abidin, 1995) is a commonly used brief measure of parent stress. All 36 items in the PSI-SF are taken from the long form of the measure. The PSI-SF was developed to provide clinicians with a measure of parenting stress that could be

completed in under 10 minutes. Based on factor analyses of the full-length PSI, the PSI-SF is composed of three subscales: Parental Distress, Parent-Child Dysfunctional Interaction, and Difficult Child, each with 12 items. A total stress score can also be calculated. In previous research, the Parental Distress subscale of the PSI-SF has generally been conceptualized to measure the experience of distress in parents. The Parent-Child Dysfunctional Interaction and Difficult Child subscales have been conceptualized as measures of stressors as they represent difficulties with the child, often seen as a function of the diagnosis of ASD (Shine, 2014; Shine & Perry, 2010). Items 1 to 3, 7 to 9, and 11 represent a “Defensive Responding” subscale that represents parents’ bias to present a favorable impression and minimize their reports of stress. This subscale is not included in the calculation of the total stress score. Items 1 to 12 comprise the Parental Distress subscale, Items 13 to 24 make up the Parent-Child Dysfunctional Interaction subscale, and items 25 to 36 form the Difficult Child subscale (Abidin, 1995).

Previous research has examined the factor structure of the PSI-SF in typically developing samples (Deater-Deckard & Scarr, 1996; Haskett et al., 2006) and a variety of different populations, including low income families (Reitman et al., 2002), and parents of children with ASD, in North American (Zaidman-Zait et al., 2011), and international samples (Dardas & Ahmad, 2014; Derguy et al., 2020). When the PSI-SF was examined in parents of typically developing children, it was generally found that the 3-factor model of the measure as published did not adequately represent the data (Deater-Deckard & Scarr, 1996; Haskett et al., 2006). Haskett et al. (2006) examined the factors utilizing exploratory factor analysis (EFA) after finding poor fit of the original model using confirmatory factor analysis (CFA). They proposed a 2-factor model with one factor representing parental distress and the other original subscales combining to measure personal distress and child rearing stress. Deater-Deckard and Scarr

(1996) examined potential gender differences between mothers and fathers. Their CFA of the original model indicated poor fit. They then conducted an EFA with internal replication on half of the sample. Their results indicated similarities between mothers and fathers; however, their sample was limited in terms of the range of parenting stress ratings. When the measure was examined in a sample with low income or SES, Reitman et al. (2002) found support for the 3-factor model proposed by Abidin (1995).

When the factor structure of the PSI-SF was examined in samples of parents of children with ASD, there was a general lack of support for the 3-factor model as presented in the original questionnaire. In international samples (i.e., France: Derguy et al., 2020; Jordan: Dardas & Ahmad, 2014), the model of the questionnaire as published lacked support. Dardas and Ahmad (2014) examined a sample of 184 Arab parents (62.0% mothers) of children with ASD aged 2 through 12 years. Established using principal components analysis, a modified model including 30 of the initial 36 items was examined using CFA. Their model included all 12 items from the Parental Distress subscale, three items were removed from the Parent-Child Dysfunctional Interaction subscale (items 19, 22, and 24), three items were removed from the Difficult Child subscale (items 31, 32, and 33), and two items were moved from the Parent-Child Dysfunctional Interaction subscale to the Difficult Child subscale (18 & 21). In a French sample of 370 parents (73.2% mothers) of children with ASD ( $M = 7$  years 6 months), after the initial CFA demonstrated poor fit, EFA was used to develop a more appropriate model (Derguy et al., 2020). In this model, 15 items were removed (1, 2, 6, 13, 14, 18, 20, 21, 22, 24, 25, 26, 27, 31, & 33) and the 3-factor structure of Parenting Distress, Parent-Child Dysfunctional Interaction, and Difficult Child was maintained with these items removed. In a North American sample of parents of children with ASD, Zaidman-Zait et al. (2011) used CFA to examine the existing PSI-

SF scoring structure (three subscales and total stress score) in a sample of 411 parents of children with ASD ranging from 20.5 to 72 months (1.7 to 6 years) ( $M = 41.6$  months, 3.5 years). They concluded that the existing three subscale model of the PSI-SF did not adequately represent the data from their sample of parents (91.2% mothers) of children with ASD (84.2% males). They then conducted an exploratory factor analysis (EFA) through which they concluded a 6-factor model was more appropriate. They suggested the following six subscales based on these factors: (1) General Distress, (2) Parenting Distress, (3) Rewards Parent, (4) Child Demandingness, (5) Difficult Child, and (6) Comparative Expectations. Zaidman-Zait et al. (2011) suggest that their proposed subscales may overlap with the original three subscale structure detailed by the measure's authors; however, it provides a more autism-specific, narrowly defined set of subscales. Zaidman-Zait et al. (2011) began to look at the appropriateness of the initial model of the PSI-SF for use in parents of young children with ASD. Their findings suggest that the structure of the measure as it was developed may not be the best configuration when used with parents of children with ASD. As their study was conducted with a single informant completing all measures, the authors suggest future research should include multiple informants and examine the properties of the measure among parents of children with ASD with broader age ranges.

These studies examining the PSI-SF in parents of children with ASD all suggest that the original 3-factor structure is likely not appropriate for parents of children with ASD; however, these samples were generally limited in size (largest  $n = 411$ ) with children of varying ages and characteristics (Derguy et al., 2020:  $M = 7.5$  years; Dardas & Ahmad, 2014:  $M = 6.3$  years [range = 2-12 years]; Zaidman-Zait et al., 2011:  $M = 3.5$  years [range = 1.7-6 years], Vineland  $M = 72.71$ , Developmental quotient  $M = 54.34$ ), and largely composed of mothers (62.0% to 91.2%). In fact, the original factor analysis of the full-length PSI was conducted using a sample solely



composed of mothers. Thus, further examination is warranted in larger, more heterogeneous samples of mothers and fathers of children with a range of severity in autism symptoms and developmental level.

### ***Family Crisis Oriented Personal Evaluation Scales***

The Family Crisis Oriented Personal Evaluation Scales (F-COPES; McCubbin et al., 1991) is a measure of family coping based on the Double ABCX model (McCubbin & Patterson, 1983). The F-COPES consists of five scales: Acquiring Social Support, Reframing, Seeking Spiritual Support, Mobilizing the Family to Acquire and Accept Help, and Passive Appraisal. These subscales are intended to identify problem-solving and behavioural strategies that families use in challenging circumstances (McCubbin et al., 1991). Item responses on this measure are given using a 5-point Likert-type scale ranging from *strongly disagree* to *strongly agree*. Factor analytic procedures were used to evaluate the underlying dimensions assessed by the questionnaire. Eight scales emerged based on this analysis, and McCubbin et al. (1991) grouped them into internal and external family coping patterns. Internal coping patterns represent the way family members handle challenges by using resources from within the family system and external coping patterns represent the active strategies families utilize to acquire resources from outside of their family system. Reliability for the measure was assessed with a sample of 119 undergraduate and graduate students. Factor analysis was completed on the initial 49 items included in the scale and eight factors emerged. After this analysis, the 49 items were reduced to 30. The measure's authors completed additional validity and reliability checks on the final factor structure (five subscales and a total score) with a sample of 2,740 individuals. McCubbin et al. (1991) reported that husbands, wives, and adolescents from this sample were combined and then the overall sample was randomly split in half to replicate reliability and validity on each half.

Coefficient alpha for the total score of these two samples was .86 and .87. Coefficient alpha of the subscales for the first half of the sample ranged from .64 (Passive Appraisal) to .84 (Acquiring Social Support) and from .62 (Passive Appraisal) to .83 (Acquiring Social Support) for the second half of the sample. Norms are available for male and female, adult and adolescent respondents. The manual for the F-COPES reports several reliability and validation samples; these samples vary from having a combination of married and single individuals and from having a majority of individuals without children, to being composed of mostly parents. None of these samples were reported to include parents of children with DD or ASD (McCubbin et al., 1991).

The F-COPES has been utilized in previous research. Altieri and Von Kluge (2009) examined F-COPES scores in 26 couples with children with ASD. They found no significant differences between the total F-COPES score between mothers and fathers; however, there were differences in ratings of the Acquiring Social Support subscale, with mothers reporting increased seeking of social support over fathers. Another study, examining families of individuals with mental illness, utilized the F-COPES as a measure of family coping (Crowe & Lyness, 2014). Crowe and Lyness (2014) found that scores on the Passive Appraisal subscale positively predicted measures of family functioning, Acquiring Social Support scores predicted family cohesion, and Passive Appraisal scores predicted communication within the family and subsequently cohesion, flexibility, and satisfaction.

Darling et al. (2012) examined fathers of children with and without disabilities. As fathers are often excluded from research or make up a small minority of a sample of parents, it is important to examine coping and stress in paternal caregivers separately. Darling et al. (2012) found that fathers of children with a broad range of disabilities (including ADHD, emotional-behaviour disability, speech-language disability, DD) had more frequent hassles, higher levels of

parenting stress as measured by the PSI-SF total score, and greater health stress compared to fathers of children without disabilities. On the other hand, fathers of typically developing children reported higher levels of coping as measured by the F-COPES total score and higher ratings of satisfaction with life. Given these large differences in total scores between fathers of children with and without disabilities, the possibility of differences in construct validity of the measures in different populations is important to consider.

### **Current Study**

The goal for the current study was to examine the PSI-SF further and examine the F-COPES in parents of children with ASD using more sound data-analytic practices, using a much larger sample of both mothers and fathers than has been used in similar previous research. As there is no control group or comparison sample in the current study, the current sample's scores on these measures were examined in relation to the norms of each measure and compared to samples from other research studies examining the PSI-SF and F-COPES in parents of children with ASD to examine the levels of distress and coping in the current sample compared to previous research. The first goal was to examine the psychometric properties of the PSI-SF and F-COPES questionnaires in mothers and fathers separately in this population. Reliability and validity were examined in the scales as published and through alternative exploration, using factor analytic procedures (described below). Through this examination, alternative subscale configurations for the PSI-SF and F-COPES were examined for use with mothers and fathers of children with ASD. As previous research has demonstrated differences in coping styles and predictors of distress between mothers and fathers (e.g., Allen et al., 2013; Altieri & Von Kluge, 2009; McStay et al., 2014), these two groups were examined separately to explore the

differences, including any measurement invariance in mothers and fathers on these two measures.

After the psychometric properties of the measures were examined, various child factors (adaptive behaviour, autism symptom severity, age, and sex) and socioeconomic status (SES) were examined as predictors of parents' experiences of distress and coping.

## **Method**

### **Procedure**

This study is based on data from screening assessments conducted between the years 2000 and 2016 for the Toronto Partnership for Autism Services (TPAS) at Surrey Place in Toronto, Ontario. Ethics approval for this archival file review study was obtained from both the York University and Surrey Place research ethics boards. Consent was not required from the participants as the requirements for the disclosure of personal health information for research under PHIPA were met and the data were anonymized as they were entered into the study's database.

Over a period of seven months, 2,893 files from screening assessments for entry into an intervention program were reviewed. Some files included multiple timepoints for these assessments (e.g., pre-screen, 1 year into treatment, post treatment assessment). When there were multiple timepoints, the earliest was selected. The children were not engaged in treatment at the time of these assessments as the purpose was to determine eligibility for service.

During this period, the PSI-SF and F-COPES were completed by parents as routine clinical practice in the autism program. In some cases, these measures were completed by only one parent and in other cases they were completed, individually, by both mothers and fathers.

Files were included if they contained at least one PSI-SF or F-COPES completed by at least one parent. Approximately 65% of the files reviewed contained the required measures.

### **Participants**

The initial sample consisted of parents of 1,885 children with ASD ranging from 14 months to 16 years of age ( $M = 4.03$  years,  $SD = 11.63$  years). However, the age distribution had a severe positive skew with few older children. As the vast majority of the sample (96.5%) fell below age 7, the sample for this study was limited to those 6 years, 11 months and younger; 95 individuals were excluded from the sample due to this age limitation. The current sample consisted of 1,790 children with ASD of whom 82.5% were male (1,477 males, 311 females). See Table 1 for characteristics of the sample, including autism symptom severity and adaptive behaviour scores (both of which varied widely), age, and SES.

Autism symptom severity scores, based on the Childhood Autism Rating Scale, indicated that 43.0% of the sample were in the non-autism or minimal to no symptoms of ASD range, 48.6% were in the mild to moderate range, and 8.4% were in the severe range. On the Vineland Adaptive Behavior Scale ( $M = 100$ ;  $SD = 15$ ), 10.4% of the sample had standard scores below 50, 59.9% of the sample had scores between 50 and 70, and 29.7% of the sample had scores above 70.

The PSI-SF was completed by 1,579 mothers and 1,034 fathers. The F-COPES was completed by 1,465 mothers and 933 fathers. The PSI-SF was completed by both parents in 929 cases and the F-COPES was completed by both parents in 822 cases. In 794 cases, both parents completed both measures.

## Measures

### *Demographics*

The sample is known to be very diverse (based on public service in Toronto) although detailed demographic data as to culture, language, and so on are not available. Socioeconomic status (SES) was represented by the median income of families' neighborhoods based on the first three digits of their postal code (forward sortation index) using data from the 2006 Canadian Census (Statistics Canada, 2006).

### *Parent Measures*

**Parental Distress.** As noted earlier, the Parenting Stress Index – Short Form (PSI-SF; Abidin, 1995) is a questionnaire composed of 36 items with responses given on a 5-point Likert-type scale ranging from 1 = *strongly disagree* to 5 = *strongly agree*. There are three subscales composed of 12 items each: (1) Parental Distress, (2) Parent-Child Dysfunctional Interaction, and (3) Difficult Child. A Total Stress score can also be calculated by summing the scores from these three subscales. Higher scores on this measure indicate higher levels of distress. The PSI-SF total score has demonstrated test-retest reliability of 0.84, with an internal consistency of  $\alpha = .91$ , and is highly correlated with the PSI full length version ( $r = .94$ ). The test-retest reliability for the individual subscales was .85 for Parental Distress, .68 for Parent-Child Dysfunctional Interaction, and .78 for Difficult Child. Internal consistency was  $\alpha = .87$  for the Parental Distress subscale, .80 for Parent-Child Dysfunctional Interaction, and .85 for Difficult Child (Abidin, 1995).

**Parent Coping.** The F-COPES is a 30-item measure with five subscales: (1) Acquiring Social Support (nine items), (2) Reframing (eight items), (3) Seeking Spiritual Support (four items), (4) Mobilizing Family to Acquire and Accept Help (four items), and (5) Passive

Appraisal (four items). One item (question 18) is not included in any of the subscales (without explanation in the manual). The Passive Appraisal subscale represents emotion-focused coping and the items are reverse coded; thus, higher scores indicated less use of passive coping skills. All item responses are given using a 5-point Likert-type scale ranging from 1 = *strongly disagree* to 5 = *strongly agree*. Scores from the subscales on the F-COPES can be reported individually or they can be summed for a total score. Higher scores on this measure represent increased coping behaviours. The test-retest reliability on the F-COPES is .71 with an internal consistency of  $\alpha = .77$  reported by the test authors for the total score (McCubbin et al., 1991). The questions on the F-COPES related to seeking spiritual support were adapted to be more inclusive of different religions (e.g., “Attending church services” was changed to “Attending church or other religious services”, “Seeking advice from a minister” had “or religious leader” added).

### ***Child Measures***

**Adaptive Behaviour.** The Vineland Adaptive Behavior Scales - Survey Interview, first (Vineland; Sparrow et al., 1984) or second edition (Vineland-II; Sparrow et al., 2005) was used to measure children’s adaptive behaviour. The Vineland and Vineland-II are divided into three domains: Communication, Daily Living Skills, and Socialization, with an overall score termed the Adaptive Behaviour Composite (ABC). Both standard scores ( $M = 100$ ;  $SD = 15$ ) and age-equivalent scores are available for this measure.

**Autism Severity.** The Childhood Autism Rating Scale first (CARS; Schopler et al., 1988) or second edition (CARS-2; Schopler et al., 2010) measured Autism symptom severity. The CARS is an observational measure with 15 items scored on a 7-point Likert-type scale ranging from 1 to 4 with half points. Higher scores represent more severe autism symptomatology. Scores below 30 represent the non-autism, or minimal to no symptoms of

ASD range, scores between 30 and 36.5 are in the mild/moderate range, and scores of 37 or above are considered severe.

### **Data Analysis Procedures**

Preliminary analyses involved screening the dataset for errors and outliers, examining distributions, determining how to approach missing data, and examining assumptions for the analyses undertaken for this dissertation. The questionnaires were scored according to the criteria in the measures' original publications. Parents who left items blank on either questionnaire were not excluded from all analyses, but missing items were taken into account as questionnaires were scored. The threshold for missing items in each subscale was one, meaning scores were calculated for a subscale if parents had completed every item or left no more than one item from that subscale unanswered. When one item was missing it was replaced by the mean of the other items in the subscale; this was only the case for 30 mothers on the difficult child subscale of the PSI-SF. Between 0% and 4.8% of questionnaires had more than one item missing, with no subscale score calculated. Total scores were not included in any of the analyses in the current study and are therefore not presented in the tables.

Individuals with more than one item missing on the defensive responding scale of the PSI-SF were excluded from the study. Three mothers' PSI-SF questionnaires and one father's PSI-SF questionnaire were excluded for this reason. Eighty-nine percent of mothers' ( $n = 1,405$ ) and 88% of fathers ( $n = 910$ ) who completed the PSI-SF had acceptable scores on the Defensive Responding subscale (scores higher than 10). Low scores on Defensive responding have implications for the interpretation of the results of the questionnaire, but do not necessarily invalidate the questionnaire as a whole. For this reason, parents with low scores on Defensive Responding were not excluded from analyses.



As the current study does not include a control group, the scores on the PSI-SF and F-COPES in the current sample were compared to the norms as published for each questionnaire and other studies of parents of children with ASD (PSI-SF: Rivard et al., 2014 and F-COPES: Tzou et al., 2007).

The dimensional structure of the questionnaires in parents of children with ASD was examined through confirmatory factor analysis (CFA) using individual items of the PSI-SF to test the model as described in its manual with the three subscales: Parental Distress, Parent Child-Dysfunctional Interaction, and Difficult Child. The dimensional structure of the F-COPES was also analyzed using a CFA of its authors' 5-factor model based on the subscales of the measure (Acquiring Social Support, Reframing, Seeking Spiritual Support, Mobilizing the Family to Acquire and Accept Help, and Passive Appraisal).

Following these analyses, EFA was used to examine other possible models to find a better representation of data from parents of children with ASD. These analyses were completed for mothers and fathers separately as previous research has shown differences in the experiences of stress and coping in mothers and fathers of children with ASD (e.g., Allen et al., 2013; Altieri & Von Kluge, 2009; McStay et al., 2014). To improve on the methodology of previous studies, the sample was divided into subsamples; half of the sample was used for the EFA, to allow for cross-validation (using CFA) on a separate subset of participants based on the selected model. Parents with multiple missing items were not excluded from all factor analyses. Listwise deletion was used for each CFA and pairwise deletion was used for each EFA; therefore sample size varies between analyses.

After the alternative explorations and cross-validation, predictors of the new factor-analytically derived parental distress and coping subscale scores were examined, in mothers and

fathers separately, using correlations and multiple regression analyses with demographic (SES) and child factors (age, sex, adaptive behaviour, and autism symptom severity) as potential predictors.

## **Results**

### **Reliability of Measure as Published**

The reliability of the PSI-SF and F-COPES, scored as published, was examined in the current sample (see Tables 2 and 3). Omega was used as the measure of reliability rather than alpha as the assumptions of alpha are often violated, and omega has been shown to be a more appropriate measure of reliability in multi-item measurement scales (T. J. Dunn et al., 2014; Flora, 2020; A. F. Hayes & Coutts, 2020). The omega values for the PSI-SF were high for each subscale (ranging from 0.86 to 0.91), and scores were very similar across mothers and fathers. Scores for the F-COPES subscales (ranging from 0.60 to 0.90) were generally similar across mothers and fathers; however, estimates for two of the five subscales (Mobilizing the Family to Acquire and Accept Help omega = .68 and .69 for mother and fathers, respectively and Passive Appraisal omega = .60 and .61 for mothers and fathers, respectively) were lower than common criteria for high reliability.

### **Comparison with Norms and Previous Research**

As the current study did not include a control group, each measure in the current sample was examined in relation to the norms published with the measures. The current sample was also compared to mothers and fathers of children with ASD from other studies using Welch's *t*-tests to account for the differences in sample size. Standardized effect sizes using Cohen's *d* are also reported.

### *Parenting Stress Index – Short Form*

The PSI-SF provides percentiles based on parents' raw scores for each subscale. The normal range for scores on this measure is between the 15<sup>th</sup> and 80<sup>th</sup> percentiles. Scores at the 85<sup>th</sup> percentile or above indicate high stress (Abidin, 1995). The mean Parental Distress score for mothers in this sample falls around the 80<sup>th</sup> percentile with scores ranging from the 1<sup>st</sup> to above the 99<sup>th</sup> percentile. Fathers scores also ranged from the 1<sup>st</sup> to above the 99<sup>th</sup> percentile with the mean falling around the 75<sup>th</sup> percentile. The mean scores for mothers and fathers on the Parent-Child Dysfunctional Interaction subscale fell around the 95<sup>th</sup> percentile, with scores ranging from the 5<sup>th</sup> to above the 99<sup>th</sup> percentile. Both mothers' and fathers' scores on the Difficult Child subscale ranged from the 1<sup>st</sup> to above the 99<sup>th</sup> percentile. The mean scores for mothers and fathers on Difficult Child fell at the 90<sup>th</sup> percentile. In sum, mean scores for both mothers and fathers on Parental Distress fell at the high (i.e., high stress) end of the normal range, whereas scores for Parent-Child Dysfunctional Interaction and Difficult Child fell above the normal range.

Rivard et al. (2014) examined the parental stress, as measured by the PSI-SF, of mothers and fathers of children with ASD at the beginning of their children's Intensive Behaviour Intervention (IBI) program; thus, this sample is comparable to the current sample. Rivard et al. (2014) included 118 families of children between the ages of 2 and 5 years with pervasive developmental disorders including autistic disorder, Asperger's syndrome, and pervasive developmental disorder – not otherwise specified, as defined in the DSM-IV-TR (American Psychiatric Association, 2000). The results of the comparisons between the Rivard et al. (2014) sample and the current sample of mothers and fathers are presented in Tables 4 and 5 respectively. Rivard et al.'s (2014) sample of mothers had significantly higher scores on Parental

Distress ( $M = 40.57, SD = 10.11$ ) and Parent-Child Dysfunctional Interaction ( $M = 39.27, SD = 5.80$ ) compared to the current study ( $M = 31.57, SD = 10.86; M = 29.41, SD = 8.38$ , respectively) with standardized effect sizes of Cohen's  $d = 0.83$  and greater. Difficult Child demonstrated the opposite pattern, with the current sample demonstrating significantly higher scores ( $M = 36.86, SD = 10.37$ ) compared to Rivard et al. (2014) ( $M = 32.54, SD = 9.16$ ); however, this difference was relatively small ( $d = 0.42$ ). Fathers' scores were also significantly higher in Rivard et al.'s (2014) sample for Parental Distress (Rivard et al.:  $M = 42.86, SD = 8.77$ ; current sample:  $M = 29.60, SD = 10.21$ ) and Parent-Child Dysfunctional Interaction (Rivard et al.:  $M = 39.82, SD = 6.15$ ; current sample:  $M = 29.34, SD = 8.45$ ), with larger effects ( $d = 1.32$  and  $1.27$  respectively), whereas scores on the Difficult Child subscale ( $M = 35.66, SD = 9.26$ ) were not significantly different from those in the current sample ( $M = 36.04, SD = 10.03$ ),  $d = 0.04$ .

### ***Family Crisis Oriented Personal Evaluation Scales***

Table 6 includes the means and standard deviations of the normative sample of the F-COPES published by McCubbin et al. (1991) along with the means and standard deviations of the current sample for comparison purposes. The current sample had similar ratings to the normative sample on Acquiring Social Support ( $M = 26.30, SD = 7.09; M = 27.81, SD = 6.51$ , respectively) and Reframing ( $M = 30.09, SD = 5.31; M = 30.42, SD = 4.86$ , respectively), however, there were bigger differences between the current sample and normative sample on Seeking Spiritual Support ( $M = 12.47, SD = 4.85; M = 16.58, SD = 2.89$ , respectively), Mobilizing the Family to Acquire and Accept Help ( $M = 15.47, SD = 3.35; M = 12.66, SD = 3.31$ , respectively), and Passive Appraisal ( $M = 15.03, SD = 3.35; M = 8.20, SD = 3.06$ , respectively). The current sample had lower mean scores on Seeking Spiritual Support by approximately 1 standard deviation, higher mean scores on Mobilizing Family to Acquire and

Accept Help by approximately 1 standard deviation, and Passive Appraisal by approximately 2 standard deviations. These latter two subscales, with higher mean scores in the current sample, corresponded with the subscales with lower estimates of reliability (see Table 3).

Twoy et al. (2007) set out to examine coping strategies, as measured by the F-COPES, utilized by parents of children with ASD. This study included 29 mothers and 22 fathers of children with ASD. The results of the comparisons of F-COPES scores between mothers in Twoy et al.'s (2007) study and the current sample are presented in Table 7, and the comparisons between fathers in the two studies are presented in Table 8. Scores in the current sample were not significantly different from any of the scores in mothers or fathers other than Seeking Spiritual Support in mothers. The current sample had significantly higher scores (i.e., higher coping) on this subscale ( $M = 12.47$ ,  $SD = 4.85$ ) than mothers in the study by Twoy et al. (2007) ( $M = 10.03$ ,  $SD = 4.61$ ), with  $d = 0.50$ .

### **Psychometric Properties of PSI-SF and F-COPES as Published**

Before examining the factor structure of the questionnaires, descriptive statistics (mean and standard deviation) were examined for each item of each questionnaire in mothers and fathers, separately. These descriptive statistics are presented in Tables 9 through 12. The polychoric correlations among items were also examined and are presented in Tables 13 through 16. In the PSI-SF, most correlations were in the range of  $r = .30$  to  $r = .79$ , with some small correlations (e.g.,  $r = .15$ ) among both mothers and fathers. The correlations of the F-COPES were more varied, with many correlations being small (e.g.,  $r = .10$ ), and some moderate to large correlations ( $r = .30$  to  $r = .91$ ) among mothers and fathers.

## **Confirmatory Factor Analyses**

The next step in the examination of the PSI-SF and F-COPES in mothers and fathers of children with ASD involved examining the fit of the models presented in the questionnaires' original development to the current sample using CFA. There is no universally accepted standard for evaluating model fit; a number of options may be examined and interpreted in light of the particular research area and using rational judgement. In the present study, models were examined using several fit statistics, including the Chi-square goodness of fit test, comparative fit index (CFI), Tucker-Lewis index (TLI), root mean square error of approximation (RMSEA), and standardized root mean square residual (SRMR). Based on Hu and Bentler (1999), a model has adequate fit when the CFI and TLI are close to .95 or greater, RMSEA is close to .06 or less, and SRMR is close to .08 or less. It has been demonstrated that these values are likely too strict for use with psychology measures (J. L. Perry et al., 2015). As summarized by Flora (2018), higher values of CFI and TLI (e.g., > .90 or .95) represent a better model-data fit. RMSEA of less than .05 represents a close fit, .05 to .08 demonstrates acceptable fit, .08 to .10 suggest mediocre fit and above .10 represents poor fit. SRMR values below .08 demonstrate reasonable model-data fit (MacCallum et al., 1996). These more flexible recommendations (Flora, 2018; MacCallum et al., 1996) were utilized to evaluate model-data fit for both questionnaires in mothers and fathers.

### ***Confirmatory Factor Analysis: Parenting Stress Index-Short Form***

The manual for the PSI-SF (Abidin, 1995) describes a model with three latent factors: Parenting Distress (items 1-12), Parent-Child Dysfunctional Interaction (items 13-24), and Difficult Child (items 25-36). The assumption of linearity was violated as the data are based on a 5-point Likert type scale and are thus considered categorical. Therefore, polychoric correlations

were used in analyses instead of product-moment correlations or covariances (Flora, 2018). Robust unweighted least squares (ULSMV) estimates, obtained from the lavaan package of R (Rosseel, 2012), are presented in the tables. Missing data were deleted listwise per analysis with 25.7% of mothers ( $n = 406$ ) and 19.0% of fathers ( $n = 196$ ) having missing item responses and being excluded from analyses.

The model fit statistics for the CFA of models as described in their manuals including mothers PSI-SF are presented in Table 17. RMSEA (0.07) suggests the original measure structure represents mediocre fit and SRMR (0.07) represents reasonable fit; however, the CFI (0.88) and TLI (0.87) do not suggest the model fits the data adequately. While some of these values indicated adequate fit, it is worthwhile to examine alternate factor configurations to find a model that better explains data from mothers of children with ASD. The completely standardized parameter estimates are presented in Table 18.

Table 17 presents the model fit statistics for the CFA of fathers' PSI-SF questionnaires. Once again, RMSEA (0.08) indicates mediocre model fit and SRMR (0.07) represents adequate fit; however, values of CFI (0.89), and TLI (0.88) are lower than ideal. Therefore, this model could likely be improved. Completely standardized parameter estimates are presented in Table 19.

### ***Confirmatory Factor Analysis: Family Crisis Oriented Personal Evaluation Scales***

The F-COPES, as published, consists of five subscales which were considered as latent factors in a CFA model: Acquiring Social Support (items 1, 2, 5, 8, 10, 16, 20, 25, 29), Reframing (items 3, 7, 11, 13, 15, 19, 22, 24), Seeking Spiritual Support (items 14, 23, 27, 30), Mobilizing the Family to Acquire and Accept Help (items 4, 6, 9, 21), and Passive Appraisal (items 12, 17, 26, 28 – all items reverse coded). Once again, ULSMV estimation was used with

polychoric correlations due to the categorical nature of the data and missing data were deleted listwise per analysis. Two hundred and twenty one mothers (15.1%) and 92 fathers (9.9%) had missing item responses.

The model fit statistics for the CFA of the F-COPES in mothers are presented in Table 17. This model's fit to the data could be improved, as values for CFI (0.81) and TLI (0.79) do not indicate good fit, and RMSEA (0.07) and SRMR (0.08) estimates are borderline. Parameter estimates are presented in Table 20.

When this model was estimated with fathers' data, the model also fit poorly (e.g., TLI = 0.81, SRMR = 0.08; see Table 17 for complete model fit statistics and Table 21 for parameter estimates). These results suggest that the factor structure of the F-COPES should be explored further with alternative factor configurations to find a better representation of the structure of the F-COPES coping items among parents of children with ASD.

### **Exploratory Factor Analyses**

As the confirmatory factor analyses of the responses to both questionnaires by mothers and fathers left room for improvement of the fit to the data in this very large sample, the next step involved splitting the sample in half to allow for cross-validation of exploratory factor analyses (EFA) in independent samples. The sample was split randomly for mothers and fathers separately, creating four subsamples for the PSI-SF and four subsamples for the F-COPES. The subsamples used for the EFA of the PSI-SF will be referred to as Mothers PSI-SF Sample A and Fathers PSI-SF Sample A. The subsamples used for the EFA of the F-COPES will be referred to as Mothers F-COPES Sample A and Fathers F-COPES Sample A. The A samples were used for the initial EFA analyses and the corresponding B Samples were utilized for cross-validation using CFA.



Several fit statistics were used in the evaluation of the EFA models, including root-mean-square residual (RMSR), RMSEA, TLI, and Bayesian information criterion (BIC). The value of RMSR decreases as the number of factors increases; therefore, to evaluate EFA models, a balance between the number of meaningful factors and the meaningful decrease in RMSR is sought. Smaller values of RMSEA ( $< .05$  = close fit;  $.05$  to  $.08$  = acceptable fit;  $.08$  to  $.10$  = mediocre fit;  $> .10$  = poor fit) and higher values of TLI ( $> .90$  or  $.95$ ), as in CFA, represent better model-data fit. Values of BIC do not provide meaningful information on their own, however, when the values are compared across models, lower BIC values represent better fit (Flora, 2018). With regard to factor loadings, generally, values above 0.30 were considered large enough to represent a potentially meaningful association between an item and a factor. However, this value was not used as a strict cut-off.

### ***Exploratory Factor Analysis: Parenting Stress Index – Short Form***

An EFA was conducted on Mothers PSI-SF Sample A which consisted of 790 mothers of children with ASD. The children in this sample were 82% Male ( $n = 650$ ) and 18% female ( $n = 139$ ). Polychoric correlations among the 36 PSI-SF items are in Table 22, showing a majority of moderate to large correlations ( $r = .30$  to  $.77$ ) with some small correlations (e.g.,  $r = .14$ ). The scree plot (see Figure 3) indicated between 2- and 5-factor solutions. Parallel analysis suggested a 6-factor solution. Based on the scree plot and parallel analysis, 2-, 3-, 4-, 5-, and 6-factor models were estimated using unweighted least squares with the psych package in R (Revelle, 2017). Oblimin rotations were used, and various oblimin weights were examined ranging from  $-0.5$  to  $+0.5$ . Models with oblimin weights of  $-0.5$  are presented for the PSI-SF. Missing data were deleted pairwise (2.7% [ $n = 21$ ] mothers, and 1.7% [ $n = 9$ ] fathers were excluded). Table 23

presents model fit statistics for the 2- through 6-factor models examined in Mothers PSI-SF Sample A.

Fathers PSI-SF Sample A included 517 fathers of children with ASD. Of the children, 81% were male ( $n = 421$ ) and 19% female ( $n = 96$ ). The polychoric correlations among the items in this sample are in Table 24, again with mostly moderate to large correlations ( $r = .30$  to  $.78$ ) and some small correlations (e.g.,  $r = .13$ ). The scree plot for Fathers PSI-SF Sample A (presented in Figure 4) suggests between two and four factors. The parallel analysis suggested a 6-factor model would adequately represent the data. Once again, 2-, 3-, 4-, 5-, and 6-factor solutions were estimated (see Table 25 for the fit statistics of each model).

Based the model fit statistics and interpretability of the models, the 5-factor model was selected for both mothers and fathers of children with ASD. The first factor, labeled *General Parental Distress*, was defined by 13 items (1 through 12 and 22; see Appendix C for full list of items) with high loadings that describe parents' experiences of general distress and distress as a result of being a parent (e.g., I often have the feeling that I cannot handle things very well; having a child has caused more problems than I expected in my relationship with my spouse). The second factor was defined by six items with high loadings related to the child's behaviour (items 25, 26, 27, 29, 30, and 31) and was labelled *Behavioural Regulation* (e.g., my child seems to cry or fuss more often than most children; I feel that my child is very moody and easily upset). The third factor was called *Reciprocity* and can be interpreted by seven items (13 through 17, 19, and 23) with high factor loadings regarding the reciprocal social relationship between the parent and their child (e.g., my child rarely does things for me that make me feel good; I expected to have closer and warmer feelings for my child than I do and this bothers me). The fourth factor was defined by five items with high factor loadings (18, 20, 21, 32, and 36) surrounding the

abilities of the child and was called *Child Limits* (e.g., my child is not able to do as much as I expected; my child makes more demands on me than most children). The final factor was labelled *Perceived Disagreeable Behaviour* and was defined by the remaining five items (24, 28, 33, 34, and 35) with high factor loadings that describe child behaviours viewed as possibly disagreeable by parents (e.g., sometimes my child does things that bother me just to be mean; there are some things my child does that really bother me a lot).

EFA results for mothers and fathers are presented in Tables 26 and 27 respectively. In general, items were grouped based on factor loadings; however, with fathers, I decided to include item 24 with factor 5 despite the fact that it had a larger factor loading with factor 4 ( $\lambda = 0.36$  and  $-0.44$ , respectively). The content of this item, “Sometimes my child does things that bother me just to be mean.”, was more similar to the content of the other items with high loadings on factor 5, and the negative factor loading with factor 4 indicated that the item would likely need to be reverse coded should it be grouped with the items on factor 4. In this sample, item 36, “My child makes more demands on me than most children.”, was grouped with the items in factor 4 despite having a larger factor loading on factor 5 ( $\lambda = 0.25$  and  $0.34$ , respectively), because this item loaded more strongly on factor 4 in the mothers’ sample and its content was similar to that of the other items with high loadings on factor 4. Because these were the only items that differed between mothers and fathers, I decided to keep the subscales the same for both mothers and fathers. Models allowing for these two items to cross-load onto factors 4 and 5 were examined during the cross-validation utilizing CFA.

Correlations among the factor analytically reconfigured subscale scores were calculated in the A and B samples combined for both mothers and fathers (see Tables 28 and 29, respectively). Correlations among these subscales were moderately large, ranging from .50 to .63

in mothers and from .49 to .63 in fathers. Reliability of these subscales was also calculated in the total sample using omega (see Table 30). These estimates ranged from 0.81 to 0.91, suggesting strong reliability for all five subscales for both mothers and fathers.

***Exploratory Factor Analysis: Family Crisis Oriented Personal Evaluation Scales***

As with the PSI-SF, the sample of participants who completed the F-COPES was split in half, randomly. The half of the sample used for EFA in Mothers F-COPES (Mothers F-COPES Sample A) consisted of 733 mothers of children with ASD. Most of these children were male (82%;  $n = 604$ ), with 18% female ( $n = 128$ ). Polychoric correlations among the 30 F-COPES items are presented in Table 31, with correlations ranging from  $r = .00$  to  $.91$ , with the majority of correlations around  $.30$ . The scree plot (Figure 5) indicated anywhere from a 2- to 5-factor solution, whereas parallel analysis suggested seven factors. Therefore, 4-, 5-, 6-, and 7-factor models were examined using EFA. Missing data were deleted pairwise (3.3% [ $n = 24$ ] of mothers and 2.6% [ $n = 12$ ] of fathers were excluded). Oblimin rotations were used, and various oblimin weights were examined ranging from  $-0.5$  to  $+0.5$ . Models with oblimin weights of  $+0.25$  are presented for the F-COPES. Table 32 presents the model fit statistics of these models.

Fathers F-COPES Sample A included 467 fathers of children with ASD. Eighty-three percent of the children were male ( $n = 385$ ) and 17% were female ( $n = 81$ ). The polychoric correlations of the 30 F-COPES items in Fathers F-COPES Sample A are presented in Table 33 with correlations ranging from  $r = .00$  to  $.90$  with the majority of correlations around the  $.30$  range. The scree plot (Figure 6) indicated between a 2- and 5-factor solution whereas parallel analysis suggested seven factors. As in mothers, 4-, 5-, 6-, and 7-factor models were estimated (see Table 34 for the fit statistics of each model) with oblimin weights of  $+0.25$  after various oblimin weights (ranging from  $-.5$  to  $+.5$ ) were examined.

Based on the model fit statistics and the interpretability of the models, the 7-factor model was selected for both mothers and fathers. The first factor was called *Social Support from Friends and Family* and was defined by six items (1, 2, 5, 16, 20, and 25; see Appendix C for full list of items) with high factor loadings related to reaching out and receiving support from friends and family members (e.g., sharing concerns with close friends; asking relatives how they feel about problems we face). The second factor could be interpreted by six items (3, 7, 11, 13, 22, and 24) with high factor loadings related to personal resources within the family and was labeled *Self-Efficacy* (e.g., knowing we have the power to solve major problems; believing we can handle our own problems). *Religious Participation/Coping* was the third factor. This factor was defined by four items (14, 23, 27, and 30) with high factor loadings related to participation in religious or spiritual activities (e.g., seeking advice from a minister [or religious leader]; having faith in God). The fourth factor was comprised of the four reverse coded items from Passive Appraisal subscale of the measure's original publication. This factor was titled *Passive/Avoidant coping* as it was defined by items 12, 17, 26, and 28, describing passive coping behaviours and thoughts (e.g., watching television; believing if we wait long enough, the problem will go away). The fifth factor could be defined by four items (4, 6, 9, and 21) with high factor loadings related to information and support seeking from more formal sources and was labelled *Formal Supports* (e.g., seeking information and advice from the family doctor; seeking professional counseling and help for family difficulties). The sixth factor was defined by three items (8, 10, and 29) relating to seeking support from neighbours more specifically and was labelled *Support from Neighbours* (e.g., asking neighbors for favors and assistance; sharing problems with neighbours). The final factor could be interpreted by two items (15 and 19) relating to acceptance of difficult events and was thus labeled *Acceptance* (e.g., accepting

stressful events as a fact of life). Item 18 (Exercising with friends to stay fit and reduce tension) had relatively low loadings across all seven factors, ranging from  $\lambda = 0.04$  to 0.28 in mothers and  $\lambda = 0.01$  to 0.35 in fathers. Item 18 was not included in any of the subscales as defined by the original authors, and due to its low loadings in the current analyses, and lack of theoretical fit with other items on the subscales this item was also not included in any of the subscales in the current study.

The results of the EFA for mothers and fathers are presented in Tables 35 and 36, respectively. Correlations among the factor analytically reconfigured subscale scores in the A and B samples combined for both mothers and fathers are in Table 37 and 38. Reliability of these new subscales in the total samples of both mothers and fathers was estimated using omega (see Table 39); these reliability estimates ranged from .59 to .91 in both mothers and fathers.

### **Cross-Validation Confirmatory Factor Analyses**

After the EFA was conducted on Sample A of each questionnaire, in mothers and fathers, CFA was used on the corresponding Sample B to evaluate the newly established factor structure of each questionnaire in a previously untested sample. As described above, robust unweighted least squares (ULSMV) estimation was used with listwise deletion of missing data (between 10.7% and 26.4% of the cross-validation samples had missing data) in the lavaan package in R (Rosseel, 2012). Fit statistics for the cross-validation CFA models are presented in Table 40.

### ***Cross-Validation Confirmatory Factor Analysis: PSI-SF***

Mothers PSI-SF Sample B consisted of the other 789 mothers in the total sample who completed the PSI-SF. Eighty-three percent of the children were male ( $n = 657$ ) and 17% female ( $n = 132$ ). The 5-factor model included *General Parental Distress* (13 items), *Behavioural Regulation* (six items), *Reciprocity* (seven items), *Child Limits* (five items), and *Perceived*

*Disagreeable Behaviour* (five items). Based on the recommendation of Flora (2018) this model fits the data adequately (e.g., CFI = 0.92, SRMR = 0.06; see Table 40 for complete fit statistics). Completely standardized parameter estimates are in Table 41.

Fathers PSI-SF Sample B consisted of the remaining 517 fathers who completed the PSI-SF. Eighty-five percent of the children were male ( $n = 483$ ) and 15% female ( $n = 78$ ). To examine the issues that arose with items 24 and 36 having salient loadings on more than one factor in the EFA, a model that allowed for these two items to cross-load onto factors 4 and 5 was estimated in fathers. The fit statistics are presented in Table 40, and the completely standardized parameter estimates are presented in Table 42. A model without cross-loadings was also estimated; see Table 43 for the completely standardized parameter estimates. The model fit statistics are very similar across these models (e.g., CFI = 0.92 for both, RMSEA = 0.06 for both). Because the models without cross-loadings are more parsimonious and the models' fit statistics and factor loadings are similar, I decided to use the model without cross-loadings to inform subscale creation.

### ***Cross-Validation Confirmatory Factor Analysis: F-COPES***

Mothers F-COPES Sample B consisted of the remaining 789 mothers who completed the F-COPES questionnaire. Most of the children were male (83%,  $n = 657$ ; female: 17%,  $n = 132$ ). The 7-factor model consisted of *Social Support from Friends and Family* (six items), *Self-Efficacy* (six items), *Religious Participation/Coping* (four items), *Passive/Avoidant Coping* (four reverse-coded items), *Formal Supports* (four items), *Supports from Neighbours* (three items), and *Acceptance* (two items). Model fit statistics are presented in Table 40 and the completely standardized parameter estimates are presented in Table 44. The values of CFI (0.87) and TLI

(0.85) are lower than ideal; however, the RMSEA = .06 and SRMR = .07 suggest adequate model fit.

Fathers F-COPES Sample B consisted of the remaining 466 fathers who completed the F-COPES questionnaire. Most of the children in this sample were male (86%;  $n = 398$ ) and 14% were female ( $n = 67$ ). The model fit statistics for the 7-factor model described above are presented in Table 40 with the completely standardized parameter estimates in Table 45. This model also represents adequate fit. The CFI (0.85) and TLI (0.83) values are lower than ideal, as with mothers; however, RMSEA = 0.07 and SRMR = 0.08 are indicative of better model fit.

### **Predictors of Parental Distress and Coping**

As the revised factor-analytically derived PSI-SF and F-COPES scores have been developed, the second part of the study involved examining correlates of these parental distress and coping scores, in mothers and fathers of children with ASD, separately. The demographic and child factors examined were SES (measured by median income of the family's neighbourhood), child age, sex, adaptive behaviour (Vineland ABC score), and autism symptom severity (CARS total score). Correlations of the revised factor-analytically derived scores for mothers and fathers with these child and demographic factors are presented in Tables 46 and 47 for the PSI-SF and F-COPES respectively.

The PSI-SF reconfigured factor scores showed generally small correlations (ranging from  $r = .00$  to  $.38$ ) with the predictor variables. However, parents' scores on the Child Limits subscale were moderately negatively correlated with Vineland adaptive behaviour scores in both mothers and fathers ( $r = -.36$  for both), and moderately positively correlated with autism symptom severity (CARS scores;  $r = .38$  and  $.37$ , respectively), indicating that children with lower levels of adaptive behaviour and higher levels of autism symptom severity were rated as



having more limitations by parents. As seen in Table 47, none of the examined predictors (age, sex, adaptive behaviour, autism symptom severity, SES) were moderately or strongly correlated with any of the reconfigured coping subscales ( $r = .00$  to  $-.19$ ).

Regression analyses were utilized to examine potential predictors of each factor-analytically reconfigured score. For these regression analyses, child age, child sex, SES, adaptive behaviour (Vineland score), and autism symptom severity (CARS score) were included as simultaneous predictors of each of the newly developed subscale scores. Tables 48 through 52 present the results of these regression analyses for each of the five PSI-SF reconfigured scores in mothers and fathers. For General Parental Distress, children's adaptive behaviour and autism symptom severity significantly predicted mothers' scores, with lower adaptive scores and increased symptom severity predicting higher levels of distress. For fathers, male children, lower adaptive behaviour scores, and higher levels of autism symptom severity significantly predicted higher scores on General Parental Distress. Table 49 shows that, for Behavioural Regulation, higher autism symptom severity significantly predicted higher scores for both mothers and fathers, but no other predictors were significant. Reciprocity scores, as shown in Table 50, were significantly predicted by lower adaptive behaviour skills and higher autism symptom severity for both mothers and fathers. In addition, younger child age significantly predicted higher scores on Reciprocity for fathers. Table 51 shows that higher scores on Child Limits were significantly predicted by younger child age, higher SES, lower adaptive behaviour scores, and higher autism symptom severity in both mothers and fathers. Higher scores on Perceived Disagreeable Behaviour (Table 52) were significantly predicted by older child age and more autism symptom severity in mothers and fathers. In addition, lower adaptive behaviour scores significantly predicted higher scores on Perceived Disagreeable Behaviour for mothers.

Coping scores were also regressed on these demographic and child variables; Tables 53 through 59 present the results of these regression analyses of each factor-analytically reconfigured F-COPES score in mothers and fathers. Only a few of these variables significantly predicted scores on the reconfigured F-COPES subscales. Younger child age significantly predicted higher scores on Social Support from Friends and Family in mothers (Table 53). Self-efficacy had no significant unique predictors. Religious participation was significantly predicted by lower SES and lower adaptive behaviour scores in both mothers and fathers (Table 55). Passive/Avoidant Coping scores were significantly predicted by higher SES and adaptive behaviour scores in both mothers and fathers. Mothers' scores were also significantly predicted by younger child age (Table 56). Formal Supports had no significant predictors for mothers or fathers. Fathers' higher scores on Support from Neighbours were significantly predicted by having daughters (Table 58). Acceptance scores showed no significant predictors.

### **Discussion**

The purpose of this dissertation was to examine the psychometric properties of the PSI-SF and F-COPES in a large sample of mothers and fathers of children with ASD. While the F-COPES has not been examined in this way in the target population, the aim for the PSI-SF was to further previous examinations which have indicated that the 3-factor model as published does not adequately represent the scale's structure in this and other populations (e.g., Dardas & Ahmad, 2014; Deater-Deckard & Scarr, 1996; Derguy et al., 2020; Haskett et al., 2006; Zaidman-Zait et al., 2010, 2011). The psychometric properties were examined separately in mothers and fathers as the current sample was large enough to allow for the two parent groups to be examined individually. As fathers have been studied less, the possibility that the dimensional structure of the measures could be different in mothers and fathers was examined. A further goal

of this study was to examine child and demographic factors (adaptive behaviour, autism symptom severity, age, sex, and SES) for possible associations with parental distress and coping.

### **Psychometric Properties of PSI-SF and F-COPES**

In the current sample, the fit of the previously published factor structure of the PSI-SF was examined using confirmatory factor analysis (CFA). As in previous research (e.g., Dardas & Ahmad, 2014; Derguy et al., 2020), I found that, although model fit was acceptable in both mothers and fathers, it could likely be improved.

Several models were estimated using exploratory factor analysis (EFA) in mothers and fathers on half of each sample. The model fit statistics were similar for the PSI-SF across mothers and fathers in each of the models examined (ranging from two to six factors). Based on the model fit statistics, balancing improved fit with interpretability of the model, a 5-factor solution was selected for both mothers and fathers. The factors were named: 1) General Parental Distress (13 items), 2) Behavioural Regulation (six items), 3) Reciprocity (seven items), 4) Child Limits (five items), and 5) Perceived Disagreeable Behaviour (five items). I decided to keep the structure the same for both mothers and fathers, as it was surprisingly similar in both groups. However, this is an area where future research is warranted, particularly in other studies that include both mothers and fathers, to continue exploring potential differences in their patterns of responding and experiences of distress.

The reliability estimates for the reconfigured subscales of the PSI-SF were similar to those of the original published subscales; however, they were slightly lower for the reconfigured subscales. Mothers' reliability estimates on the PSI-SF published subscales ranged from .86 to .91 and fathers' estimates ranged from .88 to .91 (see Table 2), whereas on the reconfigured subscales, reliability ranged from .81 to .91 in mothers and fathers. Despite some of these values

being slightly lower, they are still above the traditionally accepted benchmark of .80. These lower values, in general, could be explained by the number of items included in the factors with some reconfigured subscales having fewer items (12 items in each original subscale, and between five and 13 items in the reconfigured subscales). The reconfigured subscales with the fewest items (Child Limits and Perceived Disagreeable Behaviour; five items each) had the lowest reliability estimates (see Table 30).

The reconfigured subscales were further examined using CFA in the second half of each sample of mothers and fathers, allowing for the models estimated using EFA to be cross-validated on independent samples. This analysis goes one step further than previous studies examining the psychometric properties of the PSI-SF in parents of children with ASD (e.g., Dardas & Ahmad, 2014; Derguy et al., 2020; Zaidman-Zait et al., 2011). The cross-validation CFA model fit statistics for mothers and fathers on the PSI-SF were somewhat stronger in the reconfigured subscales when compared to the CFA of the original 3-factor model, suggesting the newly developed model represents a slightly better structure of the PSI-SF for use with parents of children with ASD.

Studies have been conducted examining the validity of the PSI-SF in parents of children with ASD with French (France; Derguy et al., 2020) and Arab (Jordan; Dardas & Ahmad, 2014) samples. Unlike the current study, both of these studies ended up maintaining the original three factors (Parental Distress, Parent Child Dysfunctional Interaction, and Difficult Child) with select items removed or shifted to a different factor (Derguy et al., 2020: 15 items removed; Dardas & Ahmad, 2014: six items deleted, two items moved from PCDI to DC). Both of these studies had samples consisting of a majority of mothers and were much smaller than the current sample.

The research by Zaidman-Zait et al. (2011) is most like the current study. They had a sample of parents (91.2% mothers) of 411 children (age 20.5 to 72 months) diagnosed with ASD. When the 5-factor structure of the current study was compared to the 6-factor structure proposed by Zaidman-Zait et al. (2011), there were several differences and similarities. Unlike the model proposed by Zaidman-Zait et al. (2011), the factor analyses of the current study did not provide evidence for separating general distress from parenting distress. Their first two factors were titled *General Distress* and *Parenting Distress*. The items from these factors were all included in the current study's first factor, *General Parental Distress*. This result could be due to sample differences, both in terms of size and child characteristics. While the age ranges of the studies were similar, Zaidman-Zait et al.'s (2011) sample had higher adaptive skills ( $M = 72.71$ ,  $SD = 13.63$ ) than the current sample. The statistical precision provided by the size of the current sample could also potentially explain these differences.

While there were some differences in the remaining factors, there were general similarities among the remaining factors representing difficulties in children's behaviour (e.g., Behavioural Regulation, Child Limits, and Perceived Disagreeable Behaviour in the current study, and Child Demandingness, Difficult Child, and Comparative Expectations in Zaidman-Zait et al. [2011]), and positive interactions between parents and their children (Reciprocity in the current sample, and Rewards Parent in Zaidman-Zait et al. [2011]). Overall, as noted by Zaidman-Zait et al. (2011), these findings suggest that the PSI-SF measures three overall areas of distress: parenting distress, child behaviour difficulties, and interactions between parents and children as proposed in the original PSI-SF model. However, both Zaidman-Zait et al. (2011) and the results of the current study indicate more complexity in parents of children with ASD. Further research is needed to explore the differences in the findings reported in these studies

surrounding the potential separation of parenting distress from general distress, the further division of subscales related to children's behaviour difficulties, and the relationship between parents and children. The clinical utility of further dividing these three main areas is discussed below.

Utilizing the same procedure for examining the F-COPES, the initial fit of the CFA model for the measure based on the original publication demonstrated less than optimal fit in the current sample. Several models were estimated for the F-COPES, ranging from four to seven factors in half of the sample of mothers and fathers. As with the PSI-SF, model fit statistics were similar for mothers and fathers across models. The 7-factor solution was selected for the F-COPES. The pattern of factor loadings was substantially similar in mothers and fathers, and the same subscale structure was chosen for both parents. These subscales were named: 1) Social Support from Friends and Family (six items), 2) Self-Efficacy (six items), 3) Religious Participation/Coping (four items), 4) Passive/Avoidant Coping (four items – reverse coded), 5) Formal Supports (four items), 6) Support from Neighbours (three items), and 7) Acceptance (two items). Item 18 “Exercising with friends to stay fit and reduce tension” (which was not included in any of the originally published subscales) did not load sufficiently on any of the factors or fit theoretically with the other items; thus, it was not included in any of the reconfigured subscales. It is important to note that the seventh factor, Acceptance, is only composed of two items. Russell (2002) suggested that factors should be defined based on a minimum of three items; however, for conceptual reasons, this factor was maintained.

The reliability estimates of the reconfigured subscales were similar with the reliability estimates of the original subscales, which ranged from .60 to .90 in mothers and .61 to .90 in fathers whereas the reconfigured subscales had reliability estimated ranging from .59 to .91 in

mothers and fathers. The initial subscale with the lowest reliability was Passive Appraisal, and among the reconfigured subscales the Passive/Avoidant Coping subscale, comprised of the same items as the original, also had the lowest reliability. The Seeking Spiritual Support subscale had the highest reliability of the original subscales, which aligns with the reconfigured subscale of Religious Participation/Coping, which had the highest reliability estimate among the reconfigured subscales.

The results from the cross-validation CFAs for both measures demonstrate that the models on which these reconfigured subscales are based can be replicated in independent samples. This finding provides preliminary support for their use in parents of children with ASD. However, additional independent studies with different samples would, of course, be beneficial.

### **Predictors of Distress and Coping**

When various child and demographic factors (age, sex, autism symptom severity, adaptive behaviour, and SES) were examined as predictors of the newly developed subscales for stress and coping, some child and demographic factors were significantly related to parent distress. Children's age was significantly associated with fathers' Reciprocity scores and mothers' and fathers' scores on Child Limits and Perceived Disagreeable Behaviour. Previous research has been mixed in terms of the relationship between children's age and parental distress. Rivard et al. (2014) found that parents of older children had increased levels of stress; however, other studies did not find the same connection (e.g., McStay et al., 2014b; Valicenti-Mcdermott et al., 2015). Child sex was significantly associated with fathers' scores on General Parental Distress, with male children being significantly related to increased distress for fathers. In contrast, previous research found that fathers of daughters reported increased distress (Rivard et

al., 2014). The larger number of fathers included in the current sample may have contributed to the variability in the relationship between paternal distress and child sex.

Of the newly developed PSI-SF scores, autism symptom severity was significantly related to mothers' and fathers' scores on General Parental Distress, Behavioural Regulation, Reciprocity, Child Limits, and Perceived Disagreeable Behaviour. Previous research on the relationship between autism symptom severity and parental distress has been mixed; however, several studies have found an association (e.g., Bromley et al., 2004; Firth & Dryer, 2013; Hastings, 2003; Lecavalier et al., 2006; Lyons et al., 2010; Rivard et al., 2014). The current study supports higher levels of autism symptom severity associated with distress in both mothers and fathers.

In the current study, adaptive behaviour was significantly related to mothers' and fathers' scores on General Parental Distress, Reciprocity, and Child Limits, as well as mothers' scores on Perceived Disagreeable Behaviour. The current study adds to the literature providing support for an association between lower levels of adaptive behaviour and increased parental distress (e.g., Rivard et al., 2014).

While SES has been measured differently in the current study (median income of neighbourhood), maternal education has been used as part of a proxy variable for SES in the past (Barratt, 2012). Enea and Rusu (2020) reported a connection between maternal education level and level of distress, and in the current study there was a significant association between SES and stress, as measured by the Child Limits subscale in both mothers and fathers.

As coping skills often represent internal personal resources (as in the Perry model discussed earlier), there has been less of a focus on child predictors of parents' coping. Previous research has found that parents of children with ASD utilize more avoidant coping, social



support, and religious coping strategies than parents of typically developing children (Enea & Rusu, 2020). In the current study, there were some significant associations between the child and demographic variables and parents' ratings of coping. Mothers of younger children had higher ratings on Social Support from Friends and Family and Passive/Avoidant Coping. Fathers with daughters were associated with higher scores on Support from Neighbours. Parents of children with lower adaptive skills were associated with higher scores on Religious Participation/Coping, and parents of children with higher adaptive skills were associated with higher scores on Passive/Avoidant Coping (indicating less use of these strategies as the scores are reverse coded). Autism symptom severity did not show any significant associations with coping in this sample. Finally, parents with higher SES tended to engage in fewer passive/avoidant and religious coping strategies.

While previous research is limited, there has been some evidence showing that social support can buffer the influence of family stress (M. E. Dunn et al., 2001; Manning et al., 2011). Manning et al. (2011) demonstrated that support from friends and family and spiritual support can have positive associations with parent distress and family functioning outcomes. While there is not much research surrounding predictors of family coping, these previous findings demonstrate the utility of examining family coping (including seeking out social support) to facilitate the development of coping skills in areas that are known predictors of family outcomes (e.g., parental distress).

While the Perry model of stress and Bluth's adaptation of this model (Bluth et al., 2013; A. Perry, 2004) were not directly tested, the results of this study have potential implications for the further evaluation of these models and the understanding of families' experiences of distress. The predictors of distress and coping identified in the current study are child characteristics

(child age, sex, autism symptom severity, and adaptive behaviour) and other life stressors or family resources (e.g., SES) in the Perry (2004) model and objective child characteristics and other family resources in Bluth et al.'s (2013) adapted model. As these variables have all been shown to have associations with the newly developed subscale scores of the PSI-SF and F-COPES, their importance in evaluating parent outcomes is further supported.

The newly developed subscales of both the PSI-SF and F-COPES fit well into these models. The Behavioural Regulation, Child Limits, Reciprocity, and Perceived Disagreeable Behaviour subscales of the PSI-SF could be used to represent additional child characteristics in the Perry (2004) model, and maternal and paternal perceptions of child characteristics in the Bluth et al. (2013) model. General Parental Distress represents Mothers and Fathers outcomes in the Bluth et al. (2013) model, and negative outcomes in the Perry (2004) model.

Both models (Bluth et al., 2013; A. Perry, 2004) also include resources and supports as mediators of parent outcomes. The Self-Efficacy, Passive/Avoidant Coping, and Acceptance subscales of the F-COPES would provide information about resources (individual and family systems), and Formal Supports, Social Support from Friends and Family, Religious Participation/Coping, and Support from Neighbours, provide information about formal and informal supports. The fact that the subscales of the PSI-SF and F-COPES developed in this study map on to the models of parent stress in families with children with developmental disabilities and ASD, provides further justification for the dimensional structure presented. The relationships between child and demographic variables and the newly developed subscale scores supports the importance of including these constructs in models of stress for families of children with ASD as the Perry (2004) and Bluth et al. (2013) models do.

## Strengths

While previous studies have examined the psychometric properties of the PSI-SF in parents of children with ASD (e.g., Dardas & Ahmad, 2014; Derguy et al., 2020; Zaidman-Zait et al., 2011), this is the largest known study examining the PSI-SF and F-COPES using a sample of parents of children with ASD. Because the current study is based on file review data from a community sample, it is likely much more representative of parents of children with ASD in the community accessing community services than other research studies, which generally consist of volunteer samples with more limited variability in SES. The current sample was diverse in many respects. The children with ASD in the current study varied widely in terms of autism symptom severity (measured by the CARS), adaptive behaviour (measured with the Vineland), and SES (represented by median income of residential neighbourhood) (as presented in Table 1) and, anecdotally was very ethnically diverse (e.g., another sample drawn from this same agency's population had 43% immigrant families from 37 different countries; Weiss, 2020).

Another strength of this study was the large number of fathers included in the sample, as opposed to previous research where the inclusion of fathers was limited (Darling et al., 2012). In addition to including many fathers, mothers' and fathers' data were analyzed separately to elucidate any differences between parents. Ultimately, the same models were selected for use with both mothers and fathers, but the study allowed for variability in the structure of distress and coping in mothers and fathers to be examined.

In addition to the sample being community-based, diverse, large, and inclusive of fathers, this study used more sophisticated statistical procedures than were feasible to use in other studies. In particular, this included conducting cross-validation confirmatory factor analyses on

independent samples to increase the confidence in the models identified through exploratory factor analyses.

### **Limitations & Future Research**

Although the current study had many strengths, there were also some limitations. While the use of a file review design allowed for a large sample, the measures used in the study were limited to what was available in the files. This limitation did not allow the inclusion of additional measures of variables such as problem behaviour, which has been shown to predict parental outcomes, time since diagnosis, number of children in the family, or the presence of multiple children with disabilities. It also did not include concrete information about parents' ethnicity, level of education, or more sophisticated measures of SES.

The present study was not a controlled study. Although the study was focused on finding the optimal models of the two measures for parents of children with ASD specifically, the dimensional structures reported may differ if applied to other populations of parents with other types of children. While efforts were made to address this possibility, including comparing the current sample with the norms of the measures as published and comparisons to previous research, future research should consider including a control group or comparison sample and explore the factor structures found here to other populations to evaluate their generality, especially as fathers were not included in the original factor analysis of the PSI-SF.

While the current study provides a meaningful contribution to the literature, there are several areas that should continue to be examined in future research. In this study, I found evidence for a new model for scoring the PSI-SF in parents of children with ASD and then examined predictors of these new scores. It would be helpful for future research to examine differences in the associations between predictors and the newly developed scores versus the

scores in the original model as published to replicate these findings, as well as to expand on the predictors examined (e.g., behaviour problems). As the new model has been demonstrated to fit the current sample more appropriately, it would be beneficial to know if there are differences in the relationship between the predictors and the different subscale scores in samples of parents of children with ASD and other developmental disabilities.

As use of maladaptive coping strategies has been associated with distress in mothers of children with ASD (Foody et al., 2015), future research should examine the predictive power of the F-COPES' factor analytically derived subscales on parental distress in mothers and fathers. It would be particularly useful to know whether there are differences in the predictive nature of adaptive or active coping versus maladaptive or passive coping strategies. As social support and spiritual support have been particularly impactful on parental distress in previous research (Manning et al., 2011), scores on Social Support from Friends and Family, Support from Neighbours, and Religious Participation/Coping would be particularly interesting to examine as predictors of parental distress.

While the results of the current study suggested the same model for both mothers and fathers, differences were found in the predictors of the resulting subscales. Future research should examine differences in scores of mothers and fathers based on these newly proposed subscale scores. It would be beneficial to know if there are different patterns in scores on these subscales based on parent gender.

As the newly developed subscale scores of the PSI-SF and F-COPES map onto the models of parent stress (Bluth et al., 2012; A. Perry, 2004) as discussed above, future research should evaluate these models to examine the relationships that stressors, resources, and supports have on parent and family outcomes in families of children with ASD. Potential typologies of

parental stress and coping could be examined to determine if there are distinct subgroups of parents based on their experiences of stress and coping (e.g., high stress high coping, low stress low coping, or mixed). This description could assist with further exploration of the relationships among child characteristics and parents' stress and coping profiles, in addition to treatment planning for parents and families.

### **Clinical Implications**

These revised subscales for both the measure of distress (PSI-SF) and coping (F-COPES) provide more detailed information about children's and parents' functioning that can be useful for tailoring treatment and intervention recommendations in clinical contexts. For example, if parents report high scores on subscales indicating difficulties with children's behaviour (e.g., Behavioural Regulation, Child Limits, or Perceived Disagreeable Behaviour), intervention planning may target dealing with problem behaviour, skill building, and increasing parents' skills in coping with the challenging behaviour. High scores on Reciprocity may indicate treatment targeting the interactions between parents and their children may be beneficial or treatments aimed at increasing the child's social communication skills might be needed. This model, developed for parents of children with ASD, provides more detailed information for clinical practice regarding areas of difficulty in the children's behaviour and the interactions between parents and their children than the broader 3-factor model. Previous research has shown an association between high levels of parental distress and diminished intervention effectiveness for children with ASD when parents are involved in the interventions (Osborne et al., 2008). This association is especially important in the current milieu wherein parent-mediated interventions are being promoted. The use of the PSI-SF in clinical settings where parents are involved in or

responsible for their children's interventions may indicate situations in which interventions targeting the parents' level of stress will have an impact on children's treatment outcomes.

Similarly, the subscale scores on the F-COPES may indicate where support is needed for the parent or family, particularly if future research finds an association between F-COPES scores and parental distress. If parents have higher ratings of parental distress, the F-COPES scores could indicate areas of coping that would benefit from skills training (e.g., more active coping strategies instead of passive or avoidant strategies) or the need for additional formal or informal supports.

The goal for the current study was to evaluate the psychometric properties of measures of distress and coping in a large community-based sample of parents of children with ASD. New models of scoring for both the PSI-SF and F-COPES were developed and cross-validated using a large sample of mothers and fathers of children with ASD. Child and demographic factors were examined as predictors of parental distress and coping. Child age, sex, adaptive behaviour, autism symptom severity, and SES were all associated with various aspects of parental distress and coping. Future research should further evaluate differences between mothers and fathers in terms of their experiences of distress and coping. Taking these factors into account could improve the specificity and effectiveness of clinical services for children with ASD and their families.

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## Appendix A: Tables

**Table 1**

*Current Sample Characteristics*

Variable (N)	Mean	Standard Deviation	Range
Age (1790)	3.76 years	1.11 years	14 mos - 6 yrs 11mos
CARS (1781)	30.46	4.71	16 - 49
Vineland ABC (1662)	64.08	11.35	33 - 110.67
SES (1786)	\$53,042.25	\$13,833.48	\$30,465 - \$107,742

**Table 2**

*Reliability of the PSI-SF as Published in the Current Sample*

Subscale	Mothers $\omega$	Fathers $\omega$
Parental Distress	.91	.91
Parent-Child Dysfunctional Interaction	.86	.88
Difficult Child	.90	.90

**Table 3**

*Reliability of the F-COPES as Published in the Current Sample*

Subscale	Mothers $\omega$	Fathers $\omega$
Acquiring Social Support	.82	.84
Reframing	.78	.79
Seeking Spiritual Support	.90	.90
Mobilizing Family to Acquire and Accept Help	.68	.69
Passive Appraisal	.60	.61

**Table 4**

*Comparison of Mothers' PSI-SF Scores to Another Sample of Mothers of Children with ASD*

Variable		Current Sample	Rivard et al. (2014)	<i>t</i> -statistic (df)	<i>p</i>	Cohen's <i>d</i>
Parental Distress	N	1552	118	9.27(138)	< .0001	0.83
	M	31.57	40.57			
	SD	10.86	10.11			
Parent Child Dysfunctional Interaction	N	1547	118	17.62 (156)	< .0001	1.23
	M	29.14	39.27			
	SD	8.38	5.80			
Difficult Child	N	1522	118	-4.89 (141)	< .0001	0.42
	M	36.86	32.54			
	SD	10.37	9.16			

*Note.* Welch's *t*-test was calculated in order to account for the unequal sample size

**Table 5**

*Comparison of Fathers' PSI-SF Scores to Another Sample of Fathers of Children with ASD*

Variable		Current Sample	Rivard et al. (2014)	<i>t</i> -statistic (df)	<i>p</i>	Cohen's <i>d</i>
Parental Distress	N	1023	118	15.27 (156)	< 0.0001	1.32
	M	29.60	42.86			
	SD	10.21	8.77			
Parent Child Dysfunctional Interaction	N	1023	118	16.77 (172)	< 0.0001	1.27
	M	29.34	39.82			
	SD	8.45	6.15			
Difficult Child	N	1014	118	-0.42 (150)	0.68	0.04
	M	36.04	35.66			
	SD	10.03	9.26			

*Note.* Welch's *t*-test was calculated in order to account for the unequal sample size

**Table 6***Comparison of the Current Sample to the F-COPES Normative Sample*

Subscale		Mothers/Females			Fathers/Males		
		Current Sample	Normative Sample	Cohen's <i>d</i>	Current Sample	Normative Sample	Cohen's <i>d</i>
Acquiring Social Support	M	26.30	27.81	0.22	25.65	26.51	0.13
	SD	7.09	6.51		7.23	6.45	
Reframing	M	30.09	30.42	0.07	30.24	30.42	0.04
	SD	5.31	4.86		5.13	4.91	
Seeking Spiritual Support	M	12.47	16.58	1.03	11.55	15.96	1.06
	SD	4.85	2.89		4.96	3.14	
Mobilizing Family to Acquire and Accept Help	M	15.47	12.66	0.84	15.35	11.83	1.05
	SD	3.35	3.31		3.40	3.28	
Passive Appraisal	M	15.03	8.20	2.13	15.15	8.48	2.14
	SD	3.35	3.06		3.27	2.95	

*Note.* Cohen's *d* should be interpreted with caution, as the sample size of the normative sample is unknown, and they are likely uneven

**Table 7***Comparison of Mothers' F-COPES Scores to Another Sample of Mothers of Children with ASD*

Variable		Current Sample	Twoy et al. (2007)	<i>t</i> -statistic (df)	<i>p</i>	Cohen's <i>d</i>
Acquiring Social Support	N	1442	29	0.44 (29)	0.66	0.07
	M	26.34	25.84			
	SD	7.09	5.98			
Reframing	N	1434	29	0.76 (29)	0.45	0.15
	M	30.09	29.29			
	SD	5.31	5.63			
Seeking Spiritual Support	N	1451	29	2.82 (29)	0.009	0.50
	M	12.47	10.03			
	SD	4.85	4.61			
Mobilizing Family to Acquire and Accept Help	N	1465	29	1.19 (30)	0.24	0.14
	M	15.47	15.00			
	SD	3.33	2.08			
Passive Appraisal	N	1453	29	-0.51 (29)	0.61	0.08
	M	15.03	15.29			
	SD	3.35	2.71			

*Note.* Welch's *t*-test was calculated in order to account for the unequal sample size

**Table 8***Comparison of Fathers' F-COPES Scores to Another Sample of Fathers of Children with ASD*

Variable		Current Sample	Twoy et al. (2007)	<i>t</i> -statistic (df)	<i>p</i>	Cohen's <i>d</i>
Acquiring Social Support	N	912	22	1.28 (22)	0.21	0.24
	M	25.65	23.95			
	SD	7.23	6.13			
Reframing	N	909	22	0.13 (22)	0.90	0.02
	M	30.24	30.13			
	SD	5.13	4.05			
Seeking Spiritual Support	N	915	22	0.45 (21)	0.66	0.10
	M	11.55	11.04			
	SD	4.96	5.23			
Mobilizing Family to Acquire and Accept Help	N	930	22	0.84 (25)	0.41	0.09
	M	15.35	15.04			
	SD	3.40	1.64			
Passive Appraisal	N	919	22	-0.57 (22)	0.57	0.10
	M	15.15	15.48			
	SD	3.27	2.66			

*Note.* Welch's *t*-test was calculated in order to account for the unequal sample size

**Table 9***Descriptive Statistics for Mothers' PSI-SF (N = 1173 with complete questionnaire)*

Item	N	Mean	Standard Deviation
1	1572	2.73	1.26
2	1564	3.47	1.34
3	1571	2.48	1.33
4	1573	2.93	1.37
5	1568	2.73	1.31
6	1571	2.09	1.09
7	1556	2.95	1.29
8	1568	2.29	1.29
9	1577	2.29	1.24
10	1555	2.30	1.19
11	1572	2.60	1.29
12	1575	2.67	1.29
13	1573	2.11	1.21
14	1576	1.59	0.92
15	1570	2.05	1.19
16	1572	2.12	1.15
17	1574	1.91	1.09
18	1569	3.86	1.18
19	1569	2.43	1.31
20	1564	3.72	1.16
21	1564	3.45	1.24
22	1558	2.06	1.08
23	1549	1.79	1.07
24	1558	1.99	1.12
25	1575	2.99	1.34
26	1567	2.15	1.11
27	1568	2.82	1.32
28	1551	3.09	1.30
29	1569	3.73	1.12
30	1555	3.12	1.26
31	1573	3.16	1.40
32	1542	3.98	1.00
33	1433	2.51	1.34
34	1560	3.33	1.29
35	1564	2.68	1.35
36	1567	3.14	1.35

**Table 10***Descriptive Statistics for Fathers' PSI-SF (N = 838 with complete questionnaire)*

Item	N	Mean	Standard Deviation
1	1028	2.46	1.20
2	1028	3.28	1.33
3	1026	2.29	1.25
4	1030	2.75	1.33
5	1029	2.52	1.22
6	1023	1.96	0.97
7	1027	2.79	1.24
8	1029	2.23	1.25
9	1025	2.13	1.13
10	1030	2.24	1.14
11	1031	2.49	1.21
12	1027	2.47	1.20
13	1034	2.15	1.21
14	1032	1.74	0.98
15	1029	2.08	1.19
16	1031	2.10	1.11
17	1027	1.85	1.00
18	1029	3.82	1.15
19	1027	2.45	1.25
20	1025	3.68	1.16
21	1027	3.42	1.20
22	1016	2.15	1.04
23	1021	1.87	1.06
24	1024	2.04	1.10
25	1030	2.92	1.29
26	1033	2.14	1.04
27	1024	2.85	1.24
28	1019	2.99	1.23
29	1029	3.68	1.12
30	1027	3.07	1.22
31	1025	3.12	1.34
32	1012	3.95	0.95
33	966	2.39	1.32
34	1027	3.17	1.27
35	1030	2.71	1.32
36	1029	2.98	1.33

**Table 11***Descriptive Statistics for Mothers' F-COPES (N = 1244 with complete questionnaires)*

Item	N	Mean	Standard Deviation
1	1463	3.51	1.29
2	1465	3.48	1.23
3	1441	3.79	1.14
4	1458	3.82	1.18
5	1457	3.37	1.34
6	1464	4.22	1.05
7	1456	3.63	1.17
8	1453	2.27	1.26
9	1465	3.95	1.16
10	1453	2.10	1.22
11	1451	4.06	1.00
12	1444	2.22	1.27
13	1439	3.48	1.10
14	1450	3.08	1.04
15	1438	3.80	1.04
16	1453	3.71	1.15
17	1439	2.36	1.29
18	1449	2.62	1.30
19	1429	3.95	0.97
20	1448	3.36	1.28
21	1452	3.46	1.29
22	1450	3.45	1.16
23	1441	2.93	1.42
24	1426	3.93	0.96
25	1448	2.63	1.27
26	1441	2.73	1.28
27	1443	2.44	1.35
28	1450	1.65	1.12
29	1453	1.91	1.11
30	1455	4.02	1.39



**Table 12***Descriptive Statistics for Fathers' F-COPES (N = 837 with complete questionnaire)*

Item	N	Mean	Standard Deviation
1	933	3.37	1.32
2	929	3.31	1.21
3	928	3.83	1.13
4	933	3.77	1.17
5	929	3.33	1.32
6	930	4.16	1.07
7	926	3.76	1.12
8	931	2.13	1.20
9	930	3.91	1.20
10	922	2.07	1.18
11	918	4.05	0.96
12	919	2.16	1.25
13	913	3.54	1.08
14	914	2.87	1.46
15	909	3.83	1.02
16	916	3.55	1.12
17	914	2.39	1.26
18	919	2.67	1.30
19	915	3.86	1.00
20	917	3.30	1.25
21	918	3.52	1.33
22	921	3.56	1.09
23	916	2.73	1.42
24	915	3.83	0.96
25	917	2.68	1.21
26	919	2.62	1.24
27	912	2.26	1.31
28	919	1.68	1.10
29	919	1.95	1.10
30	918	3.68	1.50

**Table 13***Polychoric Correlations of Mothers' PSI-SF items*

Item	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	--																	
2	.47	--																
3	.54	.62	--															
4	.47	.61	.63	--														
5	.51	.60	.63	.79	--													
6	.42	.31	.37	.45	.46	--												
7	.51	.46	.53	.49	.55	.44	--											
8	.43	.49	.59	.54	.55	.36	.51	--										
9	.48	.43	.49	.51	.55	.45	.55	.54	--									
10	.51	.40	.49	.52	.53	.50	.50	.51	.65	--								
11	.50	.45	.44	.54	.55	.49	.53	.50	.64	.70	--							
12	.55	.51	.53	.62	.65	.49	.58	.53	.63	.69	.78	--						
13	.37	.34	.44	.36	.38	.30	.38	.30	.36	.42	.39	.43	--					
14	.38	.28	.39	.37	.35	.34	.31	.39	.41	.41	.35	.36	.47	--				
15	.35	.34	.37	.41	.37	.30	.36	.37	.32	.39	.34	.39	.47	.66	--			
16	.45	.40	.48	.44	.47	.35	.41	.48	.44	.49	.43	.50	.50	.60	.64	--		
17	.34	.27	.30	.35	.33	.31	.30	.31	.34	.38	.35	.39	.42	.59	.65	.52	--	
18	.32	.32	.29	.35	.33	.18	.32	.29	.26	.28	.31	.33	.23	.22	.37	.38	.33	--
19	.36	.33	.31	.37	.34	.26	.31	.33	.32	.35	.33	.38	.33	.46	.70	.49	.66	.46
20	.39	.39	.39	.41	.42	.20	.39	.32	.34	.33	.34	.40	.36	.29	.42	.44	.40	.71
21	.36	.32	.35	.39	.38	.26	.32	.30	.32	.33	.31	.34	.29	.31	.35	.38	.42	.54
22	.44	.17	.31	.23	.24	.24	.33	.30	.29	.30	.26	.27	.22	.28	.20	.31	.17	.07
23	.36	.31	.45	.35	.37	.25	.34	.32	.32	.38	.26	.35	.52	.52	.48	.51	.41	.16
24	.33	.29	.37	.32	.36	.24	.37	.26	.26	.37	.27	.34	.49	.38	.36	.41	.28	.16
25	.35	.32	.31	.41	.41	.23	.33	.33	.31	.32	.30	.37	.28	.34	.40	.40	.36	.40
26	.36	.32	.33	.36	.37	.31	.33	.30	.31	.36	.35	.40	.35	.43	.46	.45	.40	.34
27	.36	.34	.34	.42	.44	.27	.32	.31	.34	.38	.34	.39	.34	.38	.41	.43	.38	.35
28	.36	.35	.38	.41	.42	.22	.39	.32	.32	.37	.36	.41	.38	.37	.39	.47	.31	.35
29	.25	.28	.27	.29	.30	.14	.23	.28	.24	.24	.24	.25	.17	.15	.24	.28	.17	.35
30	.35	.32	.33	.36	.40	.24	.33	.34	.32	.33	.31	.36	.26	.28	.33	.39	.25	.33
31	.28	.31	.31	.39	.37	.24	.29	.32	.26	.25	.32	.35	.21	.29	.36	.38	.26	.35
32	.32	.33	.27	.39	.36	.21	.27	.29	.26	.26	.29	.32	.17	.24	.33	.37	.28	.46
33	.38	.41	.39	.46	.44	.27	.41	.34	.34	.37	.35	.40	.35	.35	.39	.45	.37	.36
34	.35	.38	.38	.40	.40	.26	.40	.33	.32	.35	.34	.38	.36	.34	.35	.43	.27	.38
35	.43	.45	.53	.52	.52	.29	.46	.48	.40	.44	.40	.46	.45	.44	.46	.55	.42	.41
36	.34	.45	.43	.46	.47	.23	.35	.44	.32	.33	.35	.42	.22	.32	.35	.47	.30	.43

Item	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
1																	
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	
18																	
19	--																
20	.51	--															
21	.48	.57	--														
22	.16	.19	.14	--													
23	.34	.25	.22	.32	--												
24	.26	.26	.24	.26	.60	--											
25	.44	.42	.50	.19	.29	.34	--										
26	.46	.36	.40	.17	.42	.43	.61	--									
27	.45	.39	.48	.19	.35	.42	.74	.68	--								
28	.33	.44	.39	.23	.35	.51	.48	.46	.54	--							
29	.26	.36	.52	.16	.16	.25	.57	.38	.58	.49	--						
30	.38	.36	.47	.17	.27	.35	.66	.52	.71	.50	.68	--					
31	.35	.36	.43	.12	.21	.18	.45	.45	.42	.34	.38	.43	--				
32	.35	.51	.44	.22	.22	.16	.40	.35	.42	.41	.42	.41	.43	--			
33	.42	.44	.45	.20	.34	.37	.51	.44	.53	.56	.43	.49	.39	.48	--		
34	.32	.46	.39	.22	.34	.45	.48	.42	.51	.72	.44	.46	.37	.44	.65	--	
35	.40	.52	.42	.29	.42	.42	.46	.41	.45	.59	.37	.41	.39	.47	.58	.64	--
36	.37	.48	.46	.17	.20	.23	.52	.38	.48	.49	.43	.47	.42	.46	.54	.54	.62

**Table 14***Polychoric Correlations of Fathers' PSI-SF Items*

Item	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
1	--																		
2	.46	--																	
3	.54	.59	--																
4	.47	.54	.66	--															
5	.49	.59	.67	.78	--														
6	.41	.36	.45	.43	.51	--													
7	.45	.41	.49	.45	.48	.43	--												
8	.40	.44	.60	.57	.59	.42	.51	--											
9	.45	.43	.55	.54	.61	.49	.53	.63	--										
10	.47	.44	.48	.52	.54	.47	.50	.51	.62	--									
11	.47	.42	.53	.55	.55	.49	.55	.52	.65	.66	--								
12	.49	.46	.60	.60	.62	.54	.59	.56	.65	.64	.81	--							
13	.32	.29	.41	.37	.38	.38	.30	.34	.37	.40	.37	.43	--						
14	.37	.23	.41	.38	.41	.38	.34	.45	.41	.39	.41	.42	.49	--					
15	.40	.36	.48	.42	.41	.39	.35	.41	.42	.37	.41	.47	.48	.67	--				
16	.39	.38	.50	.46	.50	.43	.39	.51	.48	.40	.40	.48	.48	.63	.67	--			
17	.30	.26	.38	.38	.35	.35	.28	.37	.38	.31	.35	.40	.43	.57	.67	.58	--		
18	.30	.36	.30	.35	.32	.20	.27	.31	.27	.24	.33	.33	.23	.28	.42	.39	.31	--	
19	.32	.37	.37	.40	.38	.33	.31	.34	.36	.32	.37	.41	.38	.45	.68	.54	.67	.46	
20	.32	.42	.40	.44	.45	.26	.37	.38	.35	.35	.39	.47	.35	.33	.48	.50	.38	.73	
21	.34	.35	.38	.42	.42	.29	.35	.32	.35	.35	.37	.44	.32	.33	.43	.45	.45	.58	
22	.43	.16	.36	.28	.34	.25	.34	.39	.39	.35	.35	.35	.13	.35	.23	.34	.22	.15	
23	.32	.26	.43	.36	.40	.35	.37	.38	.41	.41	.37	.40	.56	.51	.47	.49	.46	.21	
24	.35	.25	.35	.25	.34	.37	.40	.32	.32	.37	.29	.36	.50	.42	.34	.40	.33	.09	
25	.30	.30	.36	.42	.37	.30	.25	.31	.31	.28	.29	.34	.28	.28	.35	.41	.36	.37	
26	.33	.30	.34	.35	.34	.30	.29	.26	.36	.34	.31	.36	.32	.39	.42	.45	.41	.28	
27	.36	.34	.34	.38	.37	.30	.32	.32	.32	.32	.31	.37	.35	.34	.36	.43	.36	.35	
28	.35	.36	.42	.42	.43	.32	.45	.42	.39	.39	.39	.42	.38	.33	.36	.47	.34	.31	
29	.27	.30	.27	.35	.30	.23	.25	.26	.20	.23	.25	.29	.17	.18	.22	.31	.21	.36	
30	.34	.27	.30	.34	.31	.28	.29	.31	.28	.26	.28	.32	.25	.27	.27	.39	.20	.31	
31	.28	.35	.37	.39	.37	.26	.26	.32	.28	.28	.34	.38	.25	.29	.35	.41	.29	.36	
32	.30	.34	.35	.38	.38	.23	.28	.38	.33	.32	.34	.38	.22	.26	.32	.39	.26	.50	
33	.29	.35	.41	.42	.42	.33	.38	.34	.36	.34	.33	.37	.37	.34	.38	.45	.37	.35	
34	.32	.37	.44	.41	.45	.34	.42	.39	.36	.36	.39	.41	.35	.34	.39	.45	.37	.32	
35	.42	.44	.58	.59	.58	.37	.40	.55	.46	.42	.45	.52	.43	.44	.50	.56	.46	.42	
36	.33	.42	.46	.54	.52	.32	.33	.42	.36	.30	.40	.41	.26	.32	.39	.42	.32	.42	

Item	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
1																	
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	
18																	
19	--																
20	.50	--															
21	.53	.62	--														
22	.19	.20	.25	--													
23	.42	.34	.35	.35	--												
24	.25	.23	.24	.28	.52	--											
25	.41	.43	.49	.20	.29	.30	--										
26	.45	.30	.41	.26	.43	.29	.56	--									
27	.43	.46	.53	.24	.32	.39	.74	.58	--								
28	.34	.46	.42	.28	.38	.45	.46	.35	.52	--							
29	.28	.39	.48	.18	.16	.23	.58	.34	.61	.51	--						
30	.35	.36	.49	.25	.22	.30	.66	.46	.70	.47	.71	--					
31	.37	.44	.45	.23	.27	.17	.47	.43	.43	.39	.44	.45	--				
32	.33	.54	.51	.22	.26	.19	.44	.26	.41	.40	.43	.41	.45	--			
33	.40	.45	.43	.21	.38	.36	.48	.35	.48	.52	.42	.44	.39	.48	--		
34	.37	.44	.43	.26	.38	.44	.44	.34	.48	.74	.48	.45	.39	.46	.65	--	
35	.45	.55	.45	.33	.43	.38	.44	.37	.45	.57	.41	.38	.45	.49	.53	.62	--
36	.39	.49	.47	.25	.29	.20	.49	.32	.46	.48	.47	.45	.46	.47	.49	.55	.68

**Table 15***Polychoric Correlations for Mothers' F-COPES Items*

Item	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	--														
2	.54	--													
3	.19	.22	--												
4	.28	.44	.19	--											
5	.64	.45	.25	.38	--										
6	.25	.28	.20	.42	.29	--									
7	.16	.11	.65	.10	.22	.11	--								
8	.27	.35	.19	.27	.28	.15	.16	--							
9	.22	.23	.18	.38	.37	.42	.15	.26	--						
10	.26	.38	.05	.29	.29	.15	.04	.66	.23	--					
11	.14	.10	.37	.20	.12	.27	.33	.04	.20	.01	--				
12	-.02	-.03	-.01	-.03	-.07	.06	.01	0-.15	-.04	-.15	.03	--			
13	.09	.06	.36	.10	.09	.10	.37	.11	.17	-.03	.40	-.15	--		
14	.13	.16	.11	.26	.27	.24	.12	.23	.27	.21	.10	-.18	.20	--	
15	.07	.12	.31	.19	.11	.16	.27	.04	.20	.02	.27	-.09	.33	.22	--
16	.41	.64	.18	.42	.39	.28	.16	.26	.27	.32	.25	-.07	.15	.16	.24
17	-.04	-.07	.04	-.10	-.14	-.04	-.04	-.19	-.12	-.19	.06	.38	-.10	-.22	-.15
18	.22	.25	.19	.35	.27	.24	.17	.35	.27	.34	.11	-.18	.13	.30	.10
19	.11	.17	.26	.21	.12	.24	.19	.05	.23	.02	.30	.01	.29	.18	.52
20	.44	.32	.25	.23	.45	.16	.23	.30	.28	.25	.18	-.20	.21	.25	.17
21	.22	.26	.11	.37	.24	.47	.01	.21	.42	.25	.15	.00	.04	.27	.09
22	.00	-.01	.43	.03	.04	-.06	.50	.05	.06	-.02	.25	-.09	.38	.10	.32
23	.15	.16	.10	.27	.27	.24	.09	.26	.28	.24	.08	-.15	.12	.91	.16
24	.18	.17	.38	.22	.20	.27	.32	.14	.31	.11	.33	.00	.35	.35	.37
25	.49	.40	.16	.22	.49	.16	.07	.33	.26	.34	.12	-.14	.12	.23	.15
26	.06	-.02	.17	-.03	.03	.01	.15	-.04	-.04	-.08	.10	.21	.02	-.11	-.06
27	.19	.23	.07	.27	.29	.26	.05	.30	.31	.32	.08	-.16	.07	.75	.13
28	.10	.00	.09	.05	-.03	.11	.04	-.17	-.02	-.18	.19	.35	-.02	-.26	-.02
29	.24	.30	.05	.25	.24	.08	.00	.51	.19	.67	.04	-.25	.08	.22	.04
30	.10	.10	.11	.18	.25	.19	.11	.14	.30	.07	.08	-.12	.20	.75	.22

Item	16	17	18	19	20	21	22	23	24	25	26	27	28	29
1														
2														
3														
4														
5														
6														
7														
8														
9														
10														
11														
12														
13														
14														
15														
16	--													
17	-.08	--												
18	.30	-.21	--											
19	.21	-.08	.21	--										
20	.35	-.04	.39	.22	--									
21	.26	-.10	.35	.15	.21	--								
22	.08	-.14	.11	.22	.13	-.08	--							
23	.15	-.21	.34	.12	.27	.31	.09	--						
24	.24	-.05	.25	.43	.25	.24	.32	.32	--					
25	.37	-.18	.32	.12	.45	.23	.04	.28	.23	--				
26	.00	.31	-.08	-.07	.00	-.09	.00	-.10	.08	-.19	--			
27	.23	-.17	.35	.09	.26	.34	.02	.80	.26	.37	-.15	--		
28	.07	.43	-.19	.01	-.02	-.03	-.16	-.26	.03	-.17	.34	-.28	--	
29	.34	-.24	.34	.02	.24	.22	-.02	.27	.06	.39	-.15	.35	-.29	--
30	.08	-.15	.17	.18	.17	.19	.15	.70	.36	.18	-.08	.61	-.20	.09

**Table 16***Polychoric Correlations for Fathers' F-COPES Items*

Item	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	--														
2	.61	--													
3	.15	.12	--												
4	.36	.45	.18	--											
5	.61	.46	.18	.49	--										
6	.25	.31	.11	.44	.29	--									
7	.11	.10	.70	.04	.17	.04	--								
8	.27	.37	.13	.31	.32	.13	.13	--							
9	.22	.30	.16	.41	.41	.47	.11	.27	--						
10	.31	.43	.09	.38	.35	.19	.05	.70	.30	--					
11	.12	.05	.33	.17	.11	.18	.33	.05	.18	.02	--				
12	-.06	-.12	.08	-.04	-.09	.06	.03	-.17	-.11	-.22	-.03	--			
13	.13	.11	.45	.10	.15	.12	.44	.16	.16	.12	.44	-.21	--		
14	.19	.16	.02	.23	.29	.16	.05	.20	.29	.22	.03	-.11	.19	--	
15	.07	.03	.28	.06	.12	.15	.32	.12	.14	.11	.25	-.03	.28	.16	--
16	.43	.57	.14	.45	.37	.26	.16	.30	.25	.37	.14	-.14	.17	.15	.16
17	-.07	-.13	.07	-.14	-.17	.02	-.05	-.20	-.07	-.14	.05	.36	-.06	-.19	-.11
18	.26	.36	.11	.29	.31	.20	.15	.29	.24	.36	.15	-.22	.29	.24	.18
19	.08	.12	.25	.15	.13	.24	.25	.14	.16	.04	.26	-.05	.28	.07	.50
20	.45	.38	.26	.25	.46	.15	.26	.33	.28	.31	.23	-.23	.35	.28	.22
21	.27	.28	.03	.36	.34	.46	-.04	.19	.41	.32	.21	-.04	.03	.23	.13
22	-.01	-.05	.50	-.03	.07	-.07	.55	-.01	.03	-.06	.29	-.05	.40	.05	.26
23	.22	.19	.01	.26	.32	.19	.04	.22	.32	.25	.03	-.13	.14	.91	.15
24	.11	.15	.38	.19	.21	.24	.28	.14	.27	.12	.26	.01	.35	.22	.29
25	.52	.44	.09	.23	.50	.20	.07	.37	.22	.39	.09	-.17	.22	.18	.10
26	.02	-.03	.25	.06	-.01	-.04	.15	-.04	-.07	-.04	.03	.21	-.02	-.19	-.06
27	.22	.25	-.04	.27	.34	.14	.00	.25	.32	.35	.02	-.12	.09	.76	.10
28	-.01	-.03	.07	-.06	-.11	.16	.02	-.14	-.06	-.17	.13	.33	.00	-.26	-.03
29	.34	.43	-.01	.34	.36	.11	.01	.46	.21	.62	-.02	-.17	.02	.21	.10
30	.08	.08	.05	.19	.24	.14	.10	.10	.31	.07	.05	-.06	.21	.77	.11



Item	16	17	18	19	20	21	22	23	24	25	26	27	28	29
1														
2														
3														
4														
5														
6														
7														
8														
9														
10														
11														
12														
13														
14														
15														
16	--													
17	-.11	--												
18	.31	-.25	--											
19	.17	-.07	.23	--										
20	.33	-.13	.48	.26	--									
21	.29	-.08	.29	.10	.26	--								
22	-.03	-.12	.09	.17	.11	-.16	--							
23	.16	-.21	.30	.07	.30	.27	.08	--						
24	.12	.03	.24	.35	.27	.21	.23	.23	--					
25	.41	-.14	.32	.16	.47	.30	-.01	.22	.20	--				
26	-.04	.27	-.16	-.04	-.06	-.13	.09	-.16	.08	-.15	--			
27	.22	-.20	.34	.03	.31	.31	.03	.79	.21	.29	-.18	--		
28	.01	.48	-.15	.06	-.13	.01	-.16	-.33	.04	-.11	.31	-.29	--	
29	.37	-.18	.31	.00	.29	.29	-.02	.25	.09	.41	-.05	.40	-.21	--
30	.06	-.16	.17	.05	.22	.09	.14	.74	.27	.07	-.17	.63	-.26	.08

**Table 17***CFA Fit Statistics for Models as Described in Manuals*

Sample	df	$\chi^2$	CFI	TLI	RMSEA	SRMR
Mothers PSI-SF	591	4375.43	0.88	0.87	<b>0.07</b>	<b>0.07</b>
Fathers PSI-SF	591	3402.57	0.89	0.88	<b>0.08</b>	<b>0.07</b>
Mothers F-COPES	367	2647.67	0.81	0.79	<b>0.07</b>	<b>0.08</b>
Fathers F-COPES	367	1834.91	0.83	0.81	<b>0.07</b>	<b>0.08</b>

*Note.* Bold indicates value represents at least adequate fit.

**Table 18***Completely Standardized Parameter Estimates of Mothers' PSI-SF Based on Abidin's (1995) 3-**Factor Model*

	Factor Loadings	Residual Variances
<i>Parental Distress</i>		
Item 1	0.71	0.50
Item 2	0.69	0.52
Item 3	0.75	0.44
Item 4	0.78	0.36
Item 5	0.82	0.33
Item 6	0.54	0.71
Item 7	0.71	0.50
Item 8	0.68	0.54
Item 9	0.71	0.49
Item 10	0.73	0.47
Item 11	0.73	0.47
Item 12	0.80	0.36
<i>Parent-Child Dysfunctional Interaction</i>		
Item 13	0.62	0.62
Item 14	0.66	0.57
Item 15	0.73	0.47
Item 16	0.79	0.38
Item 17	0.66	0.57
Item 18	0.58	0.67
Item 19	0.70	0.51
Item 20	0.69	0.53
Item 21	0.65	0.58
Item 22	0.39	0.85
Item 23	0.60	0.64
Item 24	0.56	0.68
<i>Difficult Child</i>		
Item 25	0.74	0.45
Item 26	0.72	0.48
Item 27	0.76	0.42
Item 28	0.74	0.45
Item 29	0.85	0.66
Item 30	0.69	0.53
Item 31	0.56	0.69
Item 32	0.61	0.63
Item 33	0.74	0.45
Item 34	0.73	0.47
Item 35	0.79	0.38
Item 36	0.70	0.51

**Table 19***Completely Standardized Parameter Estimates of the Fathers' PSI-SF based on Abidin's (1995)**3-Factor Model*

	Factor Loadings	Residual Variances
<i>Parental Distress</i>		
Item 1	0.67	0.55
Item 2	0.65	0.57
Item 3	0.78	0.39
Item 4	0.81	0.35
Item 5	0.80	0.37
Item 6	0.62	0.61
Item 7	0.68	0.53
Item 8	0.74	0.46
Item 9	0.74	0.44
Item 10	0.71	0.50
Item 11	0.75	0.44
Item 12	0.82	0.33
<i>Parent-Child Dysfunctional Interaction</i>		
Item 13	0.64	0.59
Item 14	0.67	0.56
Item 15	0.72	0.48
Item 16	0.78	0.38
Item 17	0.64	0.60
Item 18	0.59	0.65
Item 19	0.68	0.53
Item 20	0.74	0.45
Item 21	0.70	0.50
Item 22	0.48	0.77
Item 23	0.65	0.58
Item 24	0.54	0.71
<i>Difficult Child</i>		
Item 25	0.70	0.52
Item 26	0.63	0.61
Item 27	0.74	0.45
Item 28	0.76	0.43
Item 29	0.63	0.60
Item 30	0.65	0.57
Item 31	0.62	0.61
Item 32	0.63	0.60
Item 33	0.72	0.49
Item 34	0.74	0.46
Item 35	0.83	0.31
Item 36	0.73	0.47

**Table 20**

*Completely Standardized Parameter Estimates of Mothers' F-COPES Based on McCubbin et al.'s (1991) 5-Factor Model*

	Factor Loadings	Residual Variances
<i>Acquiring Social Support</i>		
Item 1	0.60	0.64
Item 2	0.66	0.56
Item 5	0.69	0.53
Item 8	0.62	0.62
Item 10	0.62	0.62
Item 16	0.64	0.59
Item 20	0.60	0.64
Item 25	0.66	0.57
Item 29	0.58	0.67
<i>Reframing</i>		
Item 3	0.68	0.54
Item 7	0.60	0.64
Item 11	0.52	0.73
Item 13	0.55	0.70
Item 15	0.58	0.66
Item 19	0.58	0.67
Item 22	0.44	0.81
Item 24	0.75	0.44
<i>Seeking Spiritual Support</i>		
Item 14	0.93	0.13
Item 23	0.94	0.13
Item 27	0.89	0.20
Item 30	0.73	0.47
<i>Mobilizing Family to Acquire and Accept Help</i>		
Item 4	0.67	0.55
Item 6	0.59	0.65
Item 9	0.68	0.53
Item 21	0.62	0.62
<i>Passive Appraisal</i>		
Item 12	0.56	0.69
Item 17	0.69	0.53
Item 26	0.39	0.85
Item 28	0.66	0.56

**Table 21**

*Completely Standardized Parameter Estimates of the F-COPES in Fathers Based on McCubbin et al.'s (1991) 5-Factor Model*

	Factor Loadings	Residual Variances
<i>Acquiring Social Support</i>		
Item 1	0.64	0.59
Item 2	0.69	0.53
Item 5	0.75	0.44
Item 8	0.62	0.61
Item 10	0.69	0.52
Item 16	0.61	0.63
Item 20	0.62	0.61
Item 25	0.66	0.57
Item 29	0.63	0.61
<i>Reframing</i>		
Item 3	0.70	0.50
Item 7	0.67	0.56
Item 11	0.52	0.73
Item 13	0.69	0.53
Item 15	0.55	0.70
Item 19	0.53	0.72
Item 22	0.48	0.77
Item 24	0.64	0.60
<i>Seeking Spiritual Support</i>		
Item 14	0.91	0.17
Item 23	0.95	0.09
Item 27	0.91	0.17
Item 30	0.73	0.46
<i>Mobilizing Family to Acquire and Accept Help</i>		
Item 4	0.73	0.47
Item 6	0.56	0.49
Item 9	0.70	0.52
Item 21	0.63	0.60
<i>Passive Appraisal</i>		
Item 12	0.50	0.75
Item 17	0.67	0.55
Item 26	0.41	0.83
Item 28	0.70	0.51

**Table 22***Polychoric Correlations of PSI-SF items for Mothers Sample A*

Item	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	-																	
2	.47	-																
3	.51	.62	-															
4	.44	.60	.63	-														
5	.53	.59	.61	.77	-													
6	.41	.34	.38	.46	.51	-												
7	.48	.47	.49	.46	.53	.45	-											
8	.41	.47	.58	.51	.51	.35	.49	-										
9	.47	.43	.47	.51	.56	.43	.54	.54	-									
10	.49	.38	.48	.49	.55	.49	.47	.50	.63	-								
11	.41	.43	.42	.52	.55	.48	.47	.48	.63	.66	-							
12	.57	.53	.53	.61	.66	.50	.55	.53	.63	.67	.75	-						
13	.35	.34	.43	.38	.37	.28	.36	.29	.29	.38	.35	.44	-					
14	.40	.26	.41	.36	.36	.28	.29	.39	.42	.40	.30	.39	.49	-				
15	.36	.33	.37	.40	.36	.25	.32	.34	.30	.39	.28	.41	.49	.65	-			
16	.43	.39	.47	.40	.47	.30	.37	.42	.40	.45	.35	.51	.55	.57	.64	-		
17	.33	.21	.27	.32	.29	.24	.27	.25	.28	.33	.28	.34	.46	.58	.65	.48	-	
18	.30	.33	.27	.37	.33	.18	.28	.24	.21	.23	.28	.30	.25	.24	.39	.37	.32	-
19	.36	.35	.31	.36	.33	.23	.30	.31	.29	.33	.31	.39	.40	.43	.70	.49	.61	.44
20	.38	.43	.40	.43	.44	.24	.36	.29	.32	.33	.33	.41	.41	.30	.46	.43	.42	.72
21	.33	.31	.34	.40	.37	.23	.30	.26	.26	.32	.30	.30	.30	.28	.35	.34	.39	.55
22	.45	.21	.37	.21	.25	.22	.32	.29	.34	.29	.25	.28	.21	.24	.16	.28	.14	.07
23	.36	.30	.41	.36	.35	.27	.28	.29	.32	.39	.25	.38	.55	.50	.49	.51	.40	.16
24	.31	.25	.33	.28	.31	.25	.30	.22	.23	.37	.26	.33	.49	.39	.33	.41	.31	.13
25	.36	.34	.30	.41	.40	.24	.29	.29	.28	.33	.27	.36	.30	.37	.39	.43	.37	.40
26	.38	.33	.30	.35	.35	.34	.27	.25	.28	.34	.31	.37	.41	.48	.45	.49	.41	.32
27	.38	.37	.34	.41	.45	.31	.27	.29	.32	.39	.34	.38	.36	.41	.38	.47	.39	.35
28	.38	.36	.38	.44	.46	.24	.35	.32	.31	.37	.32	.41	.39	.37	.38	.52	.33	.39
29	.27	.35	.31	.35	.34	.20	.20	.31	.21	.25	.23	.25	.21	.18	.25	.31	.19	.39
30	.34	.35	.32	.35	.37	.25	.30	.33	.30	.33	.27	.33	.27	.27	.29	.40	.16	.32
31	.31	.34	.32	.40	.39	.24	.27	.31	.27	.24	.31	.35	.30	.34	.38	.41	.25	.39
32	.34	.40	.34	.43	.41	.21	.30	.28	.26	.23	.28	.32	.25	.23	.32	.37	.29	.49
33	.42	.41	.40	.44	.42	.30	.38	.31	.31	.38	.30	.38	.39	.34	.38	.44	.35	.32
34	.41	.44	.41	.45	.48	.33	.40	.35	.33	.39	.33	.44	.38	.34	.35	.46	.29	.39
35	.41	.44	.53	.53	.52	.31	.40	.46	.39	.46	.36	.46	.48	.45	.46	.54	.48	.40
36	.35	.44	.46	.49	.49	.24	.34	.42	.29	.33	.30	.41	.28	.35	.36	.47	.28	.43

Item	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
1																	
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	
18																	
19	-																
20	.53	-															
21	.47	.60	-														
22	.15	.18	.17	-													
23	.37	.26	.22	.28	-												
24	.27	.22	.24	.24	.61	-											
25	.42	.43	.47	.19	.28	.32	-										
26	.47	.36	.37	.16	.40	.43	.60	-									
27	.44	.41	.46	.17	.33	.44	.74	.70	-								
28	.31	.43	.43	.19	.34	.49	.48	.46	.53	-							
29	.28	.41	.54	.17	.19	.26	.60	.36	.57	.52	-						
30	.36	.37	.47	.17	.27	.35	.62	.50	.67	.48	.68	-					
31	.35	.39	.43	.11	.24	.19	.44	.46	.43	.40	.47	.45	-				
32	.37	.58	.49	.20	.20	.17	.44	.35	.45	.44	.49	.45	.48	-			
33	.40	.43	.45	.19	.35	.38	.50	.42	.52	.53	.44	.46	.37	.47	-		
34	.32	.49	.43	.23	.33	.44	.48	.41	.51	.68	.50	.48	.39	.48	.63	-	
35	.40	.54	.43	.28	.38	.38	.47	.42	.48	.57	.40	.38	.39	.50	.56	.60	-
36	.37	.50	.43	.21	.19	.22	.54	.37	.50	.50	.45	.47	.43	.48	.55	.57	.61



**Table 23***EFA Model Fit Statistics for Mothers' PSI-SF Sample A*

Fit Statistic	2-Factor Model	3-Factor Model	4-Factor Model	5-Factor Model	6-Factor Model
RMSR	0.07	0.05	0.04	0.03	0.03
RMSEA	0.10	0.09	<b>0.08</b>	<b>0.08</b>	<b>0.07</b>
TLI	0.71	0.77	0.82	0.85	0.87
BIC	1585.33	493.27	-190.78	-629.81	-828.17

*Note.* Bold indicates value represents at least adequate fit

**Table 24***Polychoric Correlations of PSI-SF items for Fathers in Sample A*

Item	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	-																	
2	.47	-																
3	.53	.61	-															
4	.52	.55	.67	-														
5	.50	.60	.67	.78	-													
6	.46	.41	.43	.45	.56	-												
7	.48	.43	.49	.42	.52	.41	-											
8	.42	.44	.58	.54	.58	.39	.52	-										
9	.44	.44	.54	.51	.61	.48	.54	.60	-									
10	.48	.45	.50	.54	.57	.49	.49	.52	.61	-								
11	.48	.45	.51	.51	.57	.49	.53	.48	.63	.65	-							
12	.53	.48	.59	.59	.61	.53	.56	.53	.61	.65	.78	-						
13	.34	.27	.37	.39	.39	.40	.33	.36	.38	.40	.37	.42	-					
14	.41	.24	.38	.39	.42	.30	.34	.37	.40	.42	.36	.36	.47	-				
15	.44	.37	.44	.44	.45	.38	.36	.39	.45	.42	.38	.43	.49	.63	-			
16	.39	.40	.47	.43	.49	.38	.37	.48	.45	.42	.35	.45	.48	.56	.63	-		
17	.25	.21	.31	.33	.31	.31	.21	.27	.32	.30	.29	.32	.38	.52	.63	.51	-	
18	.32	.38	.31	.37	.37	.25	.26	.26	.32	.25	.33	.36	.18	.26	.41	.35	.23	-
19	.32	.36	.35	.44	.42	.33	.32	.30	.33	.33	.36	.38	.32	.42	.66	.51	.62	.48
20	.40	.48	.41	.46	.50	.32	.39	.37	.39	.40	.41	.50	.33	.34	.50	.49	.31	.75
21	.35	.34	.32	.40	.42	.30	.31	.26	.29	.33	.28	.38	.22	.29	.40	.40	.36	.56
22	.38	.19	.38	.26	.33	.17	.32	.34	.33	.33	.31	.34	.14	.31	.20	.30	.15	.16
23	.36	.23	.42	.35	.36	.32	.39	.36	.37	.39	.35	.38	.54	.46	.46	.45	.41	.18
24	.34	.27	.30	.28	.33	.39	.39	.33	.36	.38	.32	.38	.49	.44	.33	.41	.32	.05
25	.36	.38	.36	.46	.42	.28	.25	.33	.30	.28	.29	.33	.24	.26	.34	.35	.30	.37
26	.36	.35	.37	.39	.32	.24	.30	.25	.37	.34	.29	.36	.28	.34	.46	.44	.37	.31
27	.39	.38	.38	.45	.41	.30	.35	.33	.36	.32	.31	.38	.31	.34	.41	.44	.35	.35
28	.39	.40	.44	.43	.41	.35	.48	.44	.41	.40	.43	.44	.40	.34	.37	.45	.32	.32
29	.33	.38	.30	.36	.33	.26	.24	.29	.21	.20	.26	.33	.13	.20	.25	.30	.19	.37
30	.36	.34	.30	.36	.33	.27	.24	.31	.26	.25	.26	.31	.20	.26	.28	.41	.12	.34
31	.34	.36	.39	.42	.41	.26	.28	.35	.29	.32	.33	.38	.21	.24	.33	.37	.23	.37
32	.32	.32	.32	.33	.39	.17	.28	.35	.29	.28	.31	.35	.18	.27	.30	.37	.20	.51
33	.33	.35	.43	.45	.47	.36	.37	.37	.39	.36	.31	.33	.35	.33	.36	.45	.35	.36
34	.34	.41	.42	.42	.46	.36	.42	.37	.35	.35	.36	.37	.37	.33	.38	.43	.36	.31
35	.44	.42	.58	.61	.57	.33	.39	.52	.47	.43	.45	.51	.43	.45	.45	.55	.47	.46
36	.35	.38	.45	.55	.53	.30	.32	.43	.36	.32	.36	.37	.26	.38	.36	.42	.29	.40

Item	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
1																	
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	
18																	
19	-																
20	.49	-															
21	.50	.60	-														
22	.18	.24	.27	-													
23	.40	.33	.28	.36	-												
24	.19	.19	.23	.26	.56	-											
25	.41	.47	.48	.21	.25	.25	-										
26	.45	.37	.41	.24	.39	.31	.54	-									
27	.46	.47	.53	.27	.33	.37	.75	.60	-								
28	.35	.51	.43	.24	.35	.43	.46	.35	.57	-							
29	.36	.39	.49	.16	.14	.22	.60	.38	.62	.51	-						
30	.38	.40	.50	.21	.15	.22	.66	.50	.66	.48	.72	-					
31	.38	.43	.48	.23	.24	.18	.47	.48	.48	.40	.49	.49	-				
32	.32	.56	.48	.21	.24	.15	.40	.27	.39	.43	.41	.40	.48	-			
33	.41	.42	.43	.21	.37	.38	.48	.35	.46	.53	.39	.42	.37	.46	-		
34	.39	.45	.47	.21	.35	.40	.45	.37	.51	.73	.47	.42	.39	.45	.65	-	
35	.49	.59	.46	.30	.43	.36	.48	.41	.51	.57	.43	.40	.46	.49	.53	.61	-
36	.41	.48	.42	.29	.29	.17	.49	.34	.49	.49	.44	.45	.44	.41	.46	.53	.68

**Table 25***EFA Model Fit Statistics for Fathers' PSI-SF in Sample A*

Fit Statistic	2-Factor Model	3-Factor Model	4-Factor Model	5-Factor Model	6-Factor Model
RMSR	0.06	0.05	0.04	0.03	0.03
RMSEA	0.10	0.09	<b>0.08</b>	<b>0.08</b>	<b>0.07</b>
TLI	0.72	0.77	0.81	0.84	0.87
BIC	51.83	-475.85	-809.54	-1013.15	-1205.48

*Note.* Bold indicates value represents at least adequate fit

**Table 26***Summary of EFA Results for the PSI-SF 5-Factor Model in Mothers*

Item	Factor Loadings					Communalities
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	
1	<b>0.49</b>	0.09	0.11	0.04	0.15	0.46
2	<b>0.45</b>	0.02	-0.05	0.25	0.23	0.49
3	<b>0.48</b>	-0.11	0.02	0.15	0.40	0.60
4	<b>0.55</b>	0.02	0.00	0.24	0.19	0.60
5	<b>0.64</b>	0.05	-0.05	0.17	0.20	0.66
6	<b>0.57</b>	0.11	0.02	-0.07	0.01	0.37
7	<b>0.57</b>	-0.04	0.02	0.09	0.16	0.46
8	<b>0.56</b>	-0.01	0.02	0.10	0.14	0.46
9	<b>0.77</b>	0.03	0.05	-0.04	-0.04	0.60
10	<b>0.69</b>	0.11	0.13	-0.12	0.02	0.60
11	<b>0.82</b>	0.09	0.03	-0.01	-0.16	0.64
12	<b>0.78</b>	0.04	0.11	0.01	0.01	0.73
22	<b>0.29</b>	-0.02	0.02	-0.05	0.23	0.18
25	0.05	<b>0.71</b>	0.10	0.11	0.00	0.67
26	0.08	<b>0.59</b>	0.33	-0.11	0.01	0.59
27	0.08	<b>0.80</b>	0.12	-0.04	0.03	0.77
29	-0.01	<b>0.63</b>	-0.16	0.27	0.12	0.61
30	0.09	<b>0.73</b>	-0.10	0.06	0.08	0.64
31	0.12	<b>0.35</b>	0.10	0.26	0.03	0.38
13	0.11	0.00	<b>0.44</b>	-0.04	0.36	0.50
14	0.15	0.08	<b>0.59</b>	-0.11	0.16	0.56
15	0.05	0.01	<b>0.76</b>	0.15	0.04	0.72
16	0.15	0.11	<b>0.44</b>	0.05	0.29	0.58
17	0.03	0.02	<b>0.72</b>	0.12	0.00	0.60
19	0.08	0.14	<b>0.62</b>	0.27	-0.14	0.62
23	0.10	0.04	<b>0.45</b>	-0.25	0.43	0.56
18	0.03	0.11	0.21	<b>0.63</b>	-0.06	0.57
20	0.08	0.04	0.27	<b>0.65</b>	0.07	0.68
21	0.06	0.31	0.15	<b>0.44</b>	0.00	0.51
32	0.06	0.25	0.01	<b>0.50</b>	0.13	0.51
36	0.12	0.24	-0.02	<b>0.39</b>	0.28	0.54
24	0.02	0.25	0.24	-0.31	<b>0.50</b>	0.53
28	0.03	0.34	0.04	0.15	<b>0.44</b>	0.57
33	0.07	0.29	0.06	0.19	<b>0.37</b>	0.51
34	0.08	0.28	-0.05	0.22	<b>0.50</b>	0.62
35	0.15	0.08	0.18	0.28	<b>0.43</b>	0.61

*Note.* Factor loadings obtained with oblimin rotation (oblimin weight = -0.5)

**Table 27***Summary of EFA Results for the PSI-SF 5-Factor Model in Fathers*

Item	Factor Loadings					Communalities
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	
1	<b>0.54</b>	0.19	0.09	-0.01	-0.01	0.46
2	<b>0.54</b>	0.16	-0.06	0.16	0.04	0.46
3	<b>0.65</b>	0.05	0.04	0.06	0.11	0.58
4	<b>0.59</b>	0.13	0.05	0.15	0.07	0.59
5	<b>0.70</b>	0.03	0.01	0.16	0.11	0.69
6	<b>0.52</b>	0.06	0.12	-0.06	0.05	0.39
7	<b>0.57</b>	0.00	0.01	-0.05	0.21	0.47
8	<b>0.59</b>	0.01	0.01	0.01	0.19	0.51
9	<b>0.69</b>	0.00	0.11	-0.01	0.03	0.58
10	<b>0.71</b>	0.01	0.11	-0.05	0.00	0.58
11	<b>0.76</b>	-0.01	0.02	0.03	0.00	0.60
12	<b>0.78</b>	0.05	0.05	0.05	-0.02	0.68
22	<b>0.34</b>	0.10	0.06	-0.06	0.06	0.19
25	0.04	<b>0.70</b>	0.05	0.08	0.07	0.65
26	0.10	<b>0.55</b>	0.33	-0.03	-0.09	0.50
27	0.03	<b>0.73</b>	0.15	-0.05	0.12	0.73
29	0.01	<b>0.69</b>	-0.12	0.11	0.16	0.63
30	0.03	<b>0.82</b>	-0.06	0.03	0.05	0.72
31	0.17	<b>0.42</b>	0.02	0.20	0.07	0.43
13	0.22	-0.06	<b>0.42</b>	-0.18	0.27	0.46
14	0.16	0.01	<b>0.58</b>	-0.06	0.11	0.51
15	0.12	0.04	<b>0.76</b>	0.16	-0.04	0.74
16	0.16	0.10	<b>0.49</b>	0.05	0.18	0.56
17	-0.06	0.00	<b>0.73</b>	0.05	0.09	0.56
19	0.02	0.19	<b>0.58</b>	0.29	-0.04	0.61
23	0.19	-0.02	<b>0.47</b>	-0.20	0.25	0.49
18	0.10	0.05	0.14	<b>0.69</b>	0.04	0.64
20	0.18	0.06	0.17	<b>0.57</b>	0.19	0.69
21	0.02	0.32	0.18	<b>0.36</b>	0.14	0.52
32	0.07	0.12	-0.02	<b>0.41</b>	0.34	0.46
36	0.17	0.19	0.03	<b>0.25</b>	<i>0.34</i>	0.48
24	0.20	0.11	0.29	<i>-0.44</i>	<b>0.36</b>	0.54
28	0.12	0.19	-0.01	0.01	<b>0.63</b>	0.65
33	0.06	0.13	0.10	0.09	<b>0.54</b>	0.52
34	-0.01	0.10	0.02	0.06	<b>0.78</b>	0.73
35	0.20	0.06	0.21	0.24	<b>0.43</b>	0.65

*Note.* Factor loadings obtained with oblimin rotation (oblimin weight = -0.5)

**Table 28***Correlations Among Factor Analytically Reconfigured Subscale Scores in Mothers' PSI-SF**Total Sample*

Subscale	General Parental Distress	Behavioural Regulation	Reciprocity	Child Limits	Perceived Disagreeable Behaviour
GPD	--				
BR	.50	--			
R	.59	.50	--		
CL	.53	.62	.51	--	
PDB	.60	.63	.59	.61	--

**Table 29***Correlations Among Factor Analytically Reconfigured Subscale Scores in Fathers' PSI-SF Total**Sample*

Subscale	General Parental Distress	Behavioural Regulation	Reciprocity	Child Limits	Perceived Disagreeable Behaviour
GPD	--				
BR	.49	--			
RC	.61	.49	--		
CL	.57	.62	.55	--	
PDB	.63	.61	.61	.61	--

**Table 30***Reliability Estimates for PSI-SF Factor Analytically Reconfigured Subscales in Total Sample*

Subscale	Mothers $\omega$	Fathers $\omega$
General Parental Distress	.91	.91
Behavioural Regulation	.85	.85
Reciprocity	.86	.87
Child Limits	.81	.83
Perceived Disagreeable Behaviour	.82	.81

**Table 31***Polychoric Correlations of F-COPES items in Mothers' F-COPES Sample A*

Item	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	-													
2	.54	-												
3	.18	.20	-											
4	.23	.43	.17	-										
5	.66	.43	.19	.33	-									
6	.29	.28	.24	.44	.28	-								
7	.15	.05	.66	.09	.20	.12	-							
8	.22	.36	.18	.25	.28	.13	.12	-						
9	.21	.23	.19	.33	.38	.46	.18	.32	-					
10	.25	.33	.03	.26	.31	.11	-.01	.68	.31	-				
11	.16	.12	.41	.23	.10	.32	.37	.07	.21	.02	-			
12	-.02	-.02	-.04	.02	-.10	.06	.04	-.20	.01	-.21	.00	-		
13	.06	.08	.35	.09	.08	.12	.34	.10	.15	.00	.37	-.13	-	
14	.10	.13	.07	.22	.24	.22	.10	.19	.26	.24	.09	-.17	.09	-
15	.00	.04	.34	.14	.01	.20	.26	.05	.15	-.01	.27	-.09	.31	.16
16	.41	.65	.17	.41	.38	.28	.09	.25	.24	.30	.25	-.04	.12	.17
17	-.02	.03	-.01	-.12	-.15	.00	.04	-.28	-.11	-.24	.06	.38	-.08	-.14
18	.16	.25	.15	.33	.23	.23	.13	.35	.27	.32	.11	-.19	.11	.25
19	.10	.17	.32	.19	.10	.26	.20	.07	.18	.03	.24	.02	.24	.05
20	.43	.32	.26	.28	.44	.15	.25	.28	.27	.25	.16	-.19	.19	.21
21	.22	.31	.12	.40	.24	.46	.01	.28	.46	.29	.17	-.01	.03	.25
22	-.04	-.05	.38	.00	-.01	-.06	.46	.03	.03	-.05	.22	-.07	.35	.06
23	.11	.14	.05	.25	.25	.23	.08	.22	.28	.25	.08	-.15	.05	.91
24	.16	.18	.41	.20	.17	.35	.36	.10	.31	.07	.33	.02	.30	.34
25	.51	.40	.18	.19	.54	.17	.10	.33	.33	.36	.06	-.19	.12	.22
26	.05	.00	.18	-.05	.01	.02	.16	-.09	-.02	-.11	.11	.17	.02	-.08
27	.16	.21	.07	.25	.28	.26	.06	.32	.33	.34	.09	-.21	.04	.75
28	.10	.03	.10	.09	-.07	.12	.01	-.25	-.07	-.20	.17	.36	-.07	-.27
29	.22	.25	.00	.22	.23	.06	-.03	.52	.19	.70	.08	-.32	.11	.20
30	.07	.02	.04	.11	.18	.17	.06	.08	.27	.08	.05	-.15	.17	.69



Item	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
1															
2															
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															
15	-														
16	.16	-													
17	-.12	-.03	-												
18	.01	.30	-.20	-											
19	.53	.20	-.05	.19	-										
20	.08	.38	-.01	.35	.22	-									
21	.09	.30	-.12	.37	.14	.20	-								
22	.33	.02	-.17	.10	.19	.05	-.08	-							
23	.13	.15	-.16	.32	.02	.26	.32	.04	-						
24	.36	.22	-.02	.22	.38	.22	.24	.26	.32	-					
25	.09	.38	-.18	.28	.16	.45	.28	.02	.27	.22	-				
26	-.04	.02	.35	-.13	-.08	-.02	-.09	.03	-.09	.11	-.16	-			
27	.12	.26	-.15	.35	.09	.29	.37	.03	.81	.26	.36	-.13	-		
28	.04	.07	.50	-.18	.04	.00	-.03	-.18	-.28	.05	-.15	.29	-.32	-	
29	.05	.29	-.32	.30	.00	.24	.27	.03	.27	.06	.39	-.21	.34	-.34	-
30	.14	.01	-.09	.10	.06	.13	.15	.11	.64	.31	.10	-.02	.55	-.20	.07

**Table 32***EFA Model Fit Statistics for Mothers F-COPES in Sample A*

Fit Statistic	4-Factor Model	5-Factor Model	6-Factor Model	7-Factor Model
RMSR	0.05	0.04	0.04	0.03
RMSEA	0.10	0.09	<b>0.08</b>	<b>0.08</b>
TLI	0.70	0.75	0.79	0.82
BIC	427.65	57.84	-208.41	-348.12

*Note.* Bold indicates value represents at least adequate fit

**Table 33***Polychoric Correlations of F-COPES items for Fathers in Sample A*

Item	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	-														
2	.58	-													
3	.09	.03	-												
4	.38	.46	.18	-											
5	.66	.45	.11	.44	-										
6	.15	.19	.12	.42	.20	-									
7	.08	.04	.69	.02	.11	.02	-								
8	.33	.38	.12	.30	.30	.11	.13	-							
9	.20	.23	.06	.35	.37	.42	.04	.27	-						
10	.31	.43	.01	.38	.32	.13	-.04	.65	.22	-					
11	.05	-.02	.30	.15	.04	.13	.34	.01	.09	-.07	-				
12	-.11	-.10	.19	-.02	-.09	.10	.08	-.19	-.12	-.25	-.05	-			
13	.12	.10	.39	.13	.13	.16	.42	.17	.15	.03	.42	-.12	-		
14	.17	.17	-.06	.21	.29	.12	-.02	.23	.29	.22	.04	-.11	.16	-	
15	.02	.01	.31	-.04	-.01	.12	.38	.08	.10	.03	.22	-.01	.27	.06	-
16	.39	.58	.07	.41	.33	.19	.09	.32	.22	.36	.05	-.20	.11	.17	.11
17	-.10	-.15	.06	-.18	-.11	.05	-.04	-.26	-.09	-.26	.07	.35	-.05	-.26	-.07
18	.22	.37	.04	.30	.24	.23	.10	.30	.22	.42	.10	-.19	.27	.24	.19
19	-.02	.09	.21	.10	.03	.25	.25	.08	.17	-.02	.28	-.01	.29	.00	.51
20	.46	.35	.22	.26	.42	.14	.22	.30	.29	.29	.14	-.25	.30	.16	.20
21	.20	.25	-.01	.35	.31	.41	-.06	.19	.37	.28	.20	-.05	.04	.21	.09
22	.00	-.09	.46	.04	-.01	.00	.49	-.04	.04	-.06	.25	-.03	.37	.07	.28
23	.20	.18	-.06	.26	.32	.15	-.01	.24	.36	.26	.02	-.14	.09	.90	.08
24	.11	.13	.33	.16	.18	.27	.28	.07	.22	.06	.27	.06	.36	.18	.29
25	.56	.44	.02	.27	.59	.17	.06	.37	.24	.38	.00	-.10	.13	.17	.05
26	.06	-.04	.28	.02	.05	-.01	.20	-.09	-.04	-.09	.08	.27	.02	-.17	-.02
27	.17	.26	-.10	.24	.29	.14	-.08	.29	.32	.36	-.07	-.15	.02	.72	-.02
28	.03	-.03	.03	-.08	-.06	.18	-.03	-.21	-.06	-.25	.16	.31	.03	-.33	.03
29	.34	.43	-.10	.30	.30	.07	-.05	.50	.16	.65	-.08	-.23	.00	.23	-.03
30	.04	.03	-.01	.16	.20	.14	.01	.13	.37	.08	.07	-.09	.20	.73	.08

Item	16	17	18	19	20	21	22	23	24	25	26	27	28	29
1														
2														
3														
4														
5														
6														
7														
8														
9														
10														
11														
12														
13														
14														
15														
16	-													
17	-.11	-												
18	.33	-.28	-											
19	.08	-.04	.26	-										
20	.33	-.11	.46	.31	-									
21	.26	-.09	.32	.13	.25	-								
22	-.03	-.09	.05	.19	.06	-.13	-							
23	.19	-.27	.29	.02	.22	.26	.12	-						
24	.07	.00	.23	.31	.24	.21	.28	.23	-					
25	.40	-.11	.30	.12	.49	.33	-.03	.22	.19	-				
26	-.05	.30	-.14	-.04	-.06	-.12	.10	-.15	.14	-.09	-			
27	.22	-.23	.34	.03	.23	.30	.04	.77	.20	.32	-.19	-		
28	.04	.52	-.13	.04	-.10	.04	-.18	-.43	.05	-.10	.24	-.34	-	
29	.35	-.23	.40	-.05	.29	.25	-.01	.27	.08	.44	-.09	.36	-.23	-
30	.03	-.18	.12	.03	.10	.09	.12	.72	.27	.03	-.11	.59	-.32	.01

**Table 34***EFA Model Fit Statistics for Fathers' F-COPES in Sample A*

Fit Statistic	4-Factor Model	5-Factor Model	6-Factor Model	7-Factor Model
RMSR	0.05	0.04	0.04	0.03
RMSEA	0.10	0.09	<b>0.08</b>	<b>0.08</b>
TLI	0.70	0.76	0.80	0.82
BIC	-264.74	-467.12	-588.16	-619.52

*Note.* Bold indicates value represents at least adequate fit

**Table 35***Summary of EFA Results for the F-COPES 7-Factor Model in Mothers*

Item	Factor Loadings							Communalities
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	
1	<b>0.91</b>	-0.01	-0.08	0.06	-0.06	-0.11	-0.02	0.66
2	<b>0.53</b>	-0.11	-0.03	0.23	0.01	0.22	0.25	0.57
5	<b>0.86</b>	0.02	0.01	-0.12	0.05	-0.13	-0.16	0.68
16	<b>0.42</b>	-0.06	0.02	0.22	0.00	0.22	0.37	0.55
20	<b>0.53</b>	0.17	0.11	0.03	-0.15	0.08	0.08	0.39
25	<b>0.66</b>	-0.01	0.04	-0.18	-0.07	0.07	0.07	0.51
3	0.04	<b>0.74</b>	-0.09	0.09	0.06	0.08	0.06	0.61
7	0.05	<b>0.85</b>	-0.02	0.07	-0.07	0.05	-0.12	0.68
11	-0.11	<b>0.43</b>	-0.02	0.16	0.22	0.07	0.16	0.34
13	0.00	<b>0.46</b>	0.00	-0.11	-0.04	0.01	0.21	0.31
22	-0.08	<b>0.59</b>	0.03	-0.20	-0.19	0.01	0.15	0.41
24	-0.03	<b>0.37</b>	0.26	0.06	0.22	-0.10	0.20	0.45
14	-0.03	-0.01	<b>1.03</b>	0.05	-0.09	-0.06	0.02	0.91
23	-0.05	-0.04	<b>1.00</b>	0.05	-0.02	0.00	-0.04	0.91
27	0.02	-0.07	<b>0.78</b>	-0.01	0.03	0.13	0.01	0.72
30	-0.02	0.04	<b>0.77</b>	-0.05	0.00	-0.22	-0.04	0.53
12	-0.13	-0.02	-0.09	<b>0.38</b>	0.25	-0.17	-0.09	0.28
17	-0.06	0.05	0.12	<b>0.71</b>	-0.11	-0.10	-0.07	0.53
26	-0.05	0.28	0.05	<b>0.47</b>	-0.08	0.00	-0.16	0.27
28	0.00	0.02	-0.17	<b>0.60</b>	0.16	-0.15	0.07	0.54
4	0.03	-0.07	-0.01	0.07	<b>0.50</b>	0.15	0.13	0.39
6	-0.03	-0.02	-0.03	0.03	<b>0.83</b>	-0.14	0.02	0.58
9	0.01	0.09	0.01	-0.10	<b>0.64</b>	0.07	-0.15	0.47
21	-0.08	-0.13	0.01	-0.03	<b>0.69</b>	0.17	-0.03	0.49
8	-0.04	0.15	-0.06	-0.05	0.08	<b>0.75</b>	-0.08	0.57
10	-0.06	0.01	0.00	0.04	0.02	<b>0.89</b>	-0.07	0.72
29	0.00	-0.01	0.01	-0.15	-0.08	<b>0.74</b>	0.07	0.62
15	-0.12	0.29	0.08	-0.15	0.09	-0.14	<b>0.53</b>	0.50
19	0.04	0.18	-0.07	-0.13	0.21	0.16	<b>0.50</b>	0.42
18	0.04	0.05	0.07	-0.11	0.22	0.28	0.06	0.29

*Note.* Factor loadings obtained with oblimin rotation (oblimin weight = .25)

**Table 36***Summary of EFA Results for the F-COPES 7-Factor Model in Fathers*

Item	Factor Loadings							Communalities
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	
1	<b>0.94</b>	0.01	-0.06	0.02	-0.06	-0.08	-0.08	0.72
2	<b>0.50</b>	-0.05	-0.10	0.00	0.13	0.27	0.00	0.51
5	<b>0.79</b>	0.01	0.12	0.02	0.09	-0.13	-0.09	0.64
16	<b>0.35</b>	-0.22	-0.09	-0.02	0.15	0.24	0.08	0.36
20	<b>0.54</b>	0.09	-0.02	-0.11	-0.04	0.02	0.37	0.51
25	<b>0.66</b>	-0.07	0.02	0.07	-0.10	0.16	0.17	0.55
3	-0.02	<b>0.85</b>	-0.05	0.10	0.06	0.08	-0.07	0.73
7	0.06	<b>0.80</b>	-0.04	-0.01	-0.12	0.03	0.09	0.66
11	-0.01	<b>0.31</b>	-0.02	-0.01	0.24	-0.17	0.23	0.28
13	0.10	<b>0.45</b>	0.05	-0.11	0.07	-0.11	0.28	0.40
22	-0.09	<b>0.62</b>	0.11	-0.15	-0.08	-0.07	0.04	0.43
24	0.01	<b>0.33</b>	0.29	0.21	0.12	0.00	0.26	0.36
14	0.01	-0.01	<b>0.94</b>	0.04	-0.05	-0.02	-0.02	0.82
23	0.01	0.00	<b>0.96</b>	0.01	-0.03	0.00	-0.01	0.91
27	-0.01	-0.10	<b>0.79</b>	0.10	-0.05	0.23	0.04	0.71
30	-0.08	0.06	<b>0.86</b>	-0.03	0.08	-0.23	-0.03	0.69
12	-0.14	0.14	0.13	<b>0.55</b>	0.04	0.01	-0.18	0.33
17	0.02	0.00	0.06	<b>0.71</b>	-0.08	-0.04	-0.01	0.49
26	0.06	0.33	0.01	<b>0.43</b>	-0.06	0.06	-0.22	0.30
28	0.12	-0.09	-0.20	<b>0.61</b>	0.14	-0.10	0.14	0.59
4	0.15	0.06	-0.08	-0.15	<b>0.66</b>	0.11	-0.21	0.63
6	-0.10	-0.05	0.04	0.12	<b>0.72</b>	-0.02	0.14	0.53
9	0.09	-0.04	0.23	-0.04	<b>0.44</b>	-0.05	0.09	0.36
21	0.05	-0.20	0.08	0.05	<b>0.47</b>	0.12	0.20	0.40
8	0.04	0.13	0.01	-0.06	0.01	<b>0.62</b>	0.01	0.47
10	-0.11	0.04	-0.02	-0.01	0.05	<b>0.92</b>	-0.04	0.76
29	0.08	-0.04	0.03	0.02	-0.09	<b>0.73</b>	0.01	0.59
15	-0.09	0.33	0.05	0.01	-0.02	0.04	<b>0.48</b>	0.39
19	-0.04	0.17	-0.05	-0.04	0.17	-0.06	<b>0.58</b>	0.46
18	0.06	0.01	0.03	-0.13	0.14	0.33	0.35	0.43

*Note.* Factor loadings obtained with oblimin rotation (oblimin weight = 0.25)

**Table 37***Correlations Among Factor Analytically Reconfigured Subscale Scores in Mothers' F-COPES**Total Sample*

Subscale	Social Support from Friends and Family	Self-Efficacy	Religious Participation /Coping	Passive / Avoidant Coping	Formal Supports	Support from Neighbours	Acceptance
SSFF	--						
SE	.26	--					
RPC	.29	.17	--				
PAC	-.09	.01	-.25	--			
FS	.44	.21	.34	-.05	--		
SN	.42	.09	.26	-.25	.30	--	
AC	.20	.44	.17	-.08	.24	.04	--

**Table 38***Correlations Among Factor Analytically Reconfigured Subscale Scores in Fathers' F-COPES**Total Sample*

Subscale	Social Support from Friends and Family	Self-Efficacy	Religious Participation /Coping	Passive / Avoidant Coping	Formal Supports	Support from Neighbours	Acceptance
SSFF	--						
SE	.23	--					
RPC	.29	.11	--				
PAC	-.16	.01	-.27	--			
FS	.50	.14	.30	-.08	--		
SN	.50	.10	.26	-.20	.37	--	
AC	.17	.38	.10	-.07	.16	.12	--



**Table 39***Reliability Estimates for F-COPES Factor Analytically Reconfigured Subscales in Total Sample*

Subscale	Mothers $\omega$	Fathers $\omega$
Social Support from Friends and Family	.79	.80
Self-Efficacy	.74	.76
Religious Participation/Coping	.91	.91
Passive/Avoidant Coping	.59	.59
Formal Supports	.66	.62
Support from Neighbours	.79	.78
Acceptance	.62	.69

**Table 40***Cross-Validation CFA in Sample B for Factor Analytically Reconfigured Models*

Sample	df	$\chi^2$	CFI	TLI	RMSEA	SRMR
Mothers PSI-SF	584	1912.69	<b>0.92</b>	<b>0.91</b>	<b>0.06</b>	<b>0.06</b>
Fathers PSI-SF cross loadings	582	1557.87	<b>0.92</b>	<b>0.91</b>	<b>0.06</b>	<b>0.06</b>
Fathers PSI-SF	584	1593.25	<b>0.92</b>	<b>0.91</b>	<b>0.06</b>	<b>0.06</b>
Mothers F-COPES	356	1156.79	0.87	0.85	<b>0.06</b>	<b>0.07</b>
Fathers F-COPES	356	990.68	0.85	0.83	<b>0.07</b>	<b>0.08</b>

*Note.* Bold indicates value represents at least adequate fit

**Table 41**

*Completely Standardized Parameter Estimates of the Factor Analytically Reconfigured PSI-SF in Mothers*

	Factor Loadings	Residual Variances
<i>General Parental Distress</i>		
Item 1	0.70	0.52
Item 2	0.67	0.55
Item 3	0.76	0.42
Item 4	0.80	0.36
Item 5	0.82	0.33
Item 6	0.54	0.71
Item 7	0.75	0.43
Item 8	0.72	0.48
Item 9	0.75	0.43
Item 10	0.75	0.44
Item 11	0.77	0.41
Item 12	0.80	0.35
Item 22	0.44	0.81
<i>Behavioural Regulation</i>		
Item 25	0.84	0.30
Item 26	0.79	0.38
Item 27	0.84	0.29
Item 29	0.61	0.62
Item 30	0.81	0.35
Item 31	0.58	0.66
<i>Reciprocity</i>		
Item 13	0.64	0.59
Item 14	0.71	0.49
Item 15	0.79	0.37
Item 16	0.86	0.25
Item 17	0.76	0.43
Item 19	0.74	0.45
Item 23	0.63	0.60
<i>Child Limits</i>		
Item 18	0.65	0.57
Item 20	0.71	0.44
Item 21	0.76	0.43
Item 32	0.61	0.63
Item 36	0.76	0.43
<i>Perceived Disagreeable Behaviour</i>		
Item 24	0.61	0.63
Item 28	0.78	0.39
Item 33	0.79	0.37
Item 34	0.74	0.45
Item 35	0.85	0.29

**Table 42***Completely Standardized Parameter Estimates of the Model Allowing Cross Loadings*

	Factor Loadings	Residual Variances
<i>General Parental Distress</i>		
Item 1	0.66	0.57
Item 2	0.63	0.60
Item 3	0.79	0.38
Item 4	0.81	0.35
Item 5	0.78	0.39
Item 6	0.63	0.60
Item 7	0.69	0.53
Item 8	0.75	0.44
Item 9	0.76	0.41
Item 10	0.72	0.49
Item 11	0.78	0.39
Item 12	0.85	0.28
Item 22	0.53	0.72
<i>Behavioural Regulation</i>		
Item 25	0.80	0.36
Item 26	0.68	0.53
Item 27	0.81	0.34
Item 29	0.69	0.53
Item 30	0.76	0.42
Item 31	0.68	0.54
<i>Reciprocity</i>		
Item 13	0.74	0.46
Item 14	0.75	0.44
Item 15	0.77	0.40
Item 16	0.87	0.24
Item 17	0.79	0.38
Item 19	0.73	0.46
Item 23	0.72	0.49
<i>Child Limits</i>		
Item 18	0.68	0.54
Item 20	0.84	0.30
Item 21	0.86	0.31
Item 24	-0.43	0.52
Item 32	0.73	0.47
Item 36	0.41	0.48
<i>Perceived Disagreeable Behaviour</i>		
Item 24	0.95	0.52
Item 28	0.73	0.47
Item 33	0.72	0.48
Item 34	0.74	0.45
Item 35	0.82	0.34
Item 36	0.36	0.48

**Table 43**

*Completely Standardized Parameter Estimates of the Factor Analytically Reconfigured PSI-SF in Fathers*

	Factor Loadings	Residual Variances
<i>General Parental Distress</i>		
Item 1	0.66	0.57
Item 2	0.64	0.60
Item 3	0.79	0.38
Item 4	0.81	0.35
Item 5	0.78	0.39
Item 6	0.63	0.60
Item 7	0.69	0.53
Item 8	0.75	0.44
Item 9	0.76	0.41
Item 10	0.72	0.49
Item 11	0.78	0.39
Item 12	0.85	0.27
Item 22	0.53	0.72
<i>Behavioural Regulation</i>		
Item 25	0.80	0.36
Item 26	0.68	0.53
Item 27	0.81	0.34
Item 29	0.69	0.53
Item 30	0.76	0.42
Item 31	0.68	0.54
<i>Reciprocity</i>		
Item 13	0.74	0.46
Item 14	0.75	0.44
Item 15	0.77	0.40
Item 16	0.87	0.24
Item 17	0.79	0.38
Item 19	0.73	0.46
Item 23	0.72	0.49
<i>Child Limits</i>		
Item 18	0.65	0.58
Item 20	0.80	0.36
Item 21	0.83	0.31
Item 32	0.70	0.51
Item 36	0.78	0.34
<i>Perceived Disagreeable Behaviour</i>		
Item 24	0.58	0.66
Item 28	0.74	0.44
Item 33	0.74	0.45
Item 34	0.76	0.42
Item 35	0.84	0.30

**Table 44**

*Completely Standardized Parameter Estimates of the Factor Analytically Reconfigured F-COPES in Mothers*

	Factor Loadings	Residual Variances
<i>Social Support from Friends and Family</i>		
Item 1	0.65	0.58
Item 2	0.73	0.47
Item 5	0.72	0.48
Item 16	0.69	0.52
Item 20	0.63	0.61
Item 25	0.66	0.57
<i>Self-Efficacy</i>		
Item 3	0.69	0.52
Item 7	0.62	0.61
Item 11	0.52	0.73
Item 13	0.59	0.65
Item 22	0.50	0.75
Item 24	0.79	0.38
<i>Religious Participation/Coping</i>		
Item 14	0.93	0.13
Item 23	0.92	0.14
Item 27	0.56	0.26
Item 30	0.82	0.32
<i>Passive/Avoidant Coping</i>		
Item 12	0.53	0.72
Item 17	0.66	0.57
Item 26	0.42	0.82
Item 28	0.68	0.54
<i>Formal Supports</i>		
Item 4	0.72	0.49
Item 6	0.57	0.68
Item 9	0.65	0.58
Item 21	0.55	0.70
<i>Supports from Neighbours</i>		
Item 8	0.80	0.36
Item 10	0.80	0.36
Item 29	0.76	0.43
<i>Acceptance</i>		
Item 15	0.71	0.49
Item 19	0.72	0.48

**Table 45**

*Completely Standardized Parameter Estimates of the Factor Analytically Reconfigured F-COPES in Fathers*

	Factor Loadings	Residual Variances
<i>Social Support from Friends and Family</i>		
Item 1	0.67	0.56
Item 2	0.70	0.52
Item 5	0.80	0.36
Item 16	0.64	0.60
Item 20	0.68	0.54
Item 25	0.62	0.62
<i>Self-Efficacy</i>		
Item 3	0.78	0.39
Item 7	0.70	0.51
Item 11	0.57	0.67
Item 13	0.72	0.48
Item 22	0.47	0.78
Item 24	0.64	0.60
<i>Religious Participation/Coping</i>		
Item 14	0.93	0.14
Item 23	0.94	0.12
Item 27	0.91	0.17
Item 30	0.77	0.40
<i>Passive/Avoidant Coping</i>		
Item 12	0.49	0.76
Item 17	0.64	0.59
Item 26	0.42	0.82
Item 28	0.67	0.55
<i>Formal Supports</i>		
Item 4	0.74	0.45
Item 6	0.62	0.62
Item 9	0.72	0.48
Item 21	0.65	0.58
<i>Supports from Neighbours</i>		
Item 8	0.72	0.47
Item 10	0.87	0.25
Item 29	0.74	0.46
<i>Acceptance</i>		
Item 15	0.77	0.40
Item 19	0.70	0.51

**Table 46***Correlations of Mothers and Fathers PSI-SF Reconfigured Scores with Child Variables and SES*

Variable	Child Age	Child Sex	Vineland	CARS	SES
Child Age	--				
Child Sex	.06	--			
Vineland	<b>-.36</b>	-.06	--		
CARS	.05	-.01	<b>-.61</b>	--	
SES	-.03	-.01	.04	-.01	--
Mother GPD	.07	.000	-.23	.18	-.02
Mother BR	.03	.02	-.15	.21	-.02
Mother RC	.02	.05	-.24	.23	-.02
Mother CL	.01	.03	<b>-.36</b>	<b>.38</b>	.06
Mother PDB	.15	-.01	-.20	.18	.01
Father GPD	.06	-.06	-.19	.19	.02
Father BR	.01	.02	-.12	.23	-.02
Father RC	.02	.03	-.29	.28	-.03
Father CL	.03	-.04	<b>-.36</b>	<b>.37</b>	.07
Father PDB	.16	-.01	-.21	.21	-.01

*Note.* Bold indicates moderate to large correlations. GPD: General Parental Distress; BR: Behavioural Regulation; RC: Reciprocity; CL: Child Limits; PDB: Perceived Disagreeable Behaviour.

**Table 47**

*Correlations of Mothers and Fathers F-COPES Reconfigured Scores with Child Variables and SES*

Variable	Child Age	Child Sex	Vineland	CARS	SES
Child Age	--				
Child Sex	.06	--			
Vineland	<b>-.36</b>	-.06	--		
CARS	.05	-.01	<b>-.61</b>	--	
SES	-.03	-.01	.04	-.01	--
Mother SSFF	-.06	.02	.02	-.02	-.03
Mother SE	.002	.01	.05	-.04	-.001
Mother RPC	.08	-.01	-.12	.03	-.19
Mother PAC	-.12	.004	.16	-.06	.15
Mother FS	-.01	.01	-.02	.004	-.03
Mother SN	.003	.04	-.05	.04	-.04
Mother AC	-.01	-.03	-.02	.01	-.03
Father SSFF	-.02	.04	-.02	-.003	-.03
Father SE	-.01	.02	.02	-.01	.02
Father RPC	.10	.01	-.18	.04	-.21
Father PAC	-.12	-.04	.13	-.02	.13
Father FS	-.004	.01	-.04	-.004	-.07
Father SN	.01	.08	-.02	-.01	-.03
Father AC	-.02	-.03	-.01	.04	.004

*Note.* Bold indicates moderate to strong correlation. SSFF: Social Support From Friends and Family; SE: Self-Efficacy; RPC: Religious Participation/Coping; PAC: Passive/Avoidant Coping; FS: Formal Supports; SN: Supports from Neighbours; AC: Acceptance.



**Table 48**

*Summary of Regression Analyses for Variables Predicting Reconfigured PSI-SF General*

*Parental Distress Scores*

Variable	Mothers			Fathers		
	<i>B</i>	<i>SE B</i>	<i>B*</i>	<i>B</i>	<i>SE B</i>	<i>B*</i>
Child	0.000	0.002	0.006	0.000	0.002	-0.003
Age						
Child Sex	-0.018	0.059	-0.008	<b>-0.171</b>	0.070	-0.079
SES	0.000	0.000	-0.008	0.000	0.000	0.003
Vineland	<b>-0.013</b>	0.003	-0.173	<b>-0.009</b>	0.003	-0.128
CARS	<b>0.016</b>	0.006	0.085	<b>0.018</b>	0.007	0.101
<i>R</i> <sup>2</sup>	0.056			0.043		
<i>F</i>	<b>16.748</b>			<b>9.286</b>		

*Note.* Bold indicates statistical significance  $p < .02$ ; *B\** represents standardized regression slope

**Table 49**

*Summary of Regression Analyses for Variables Predicting Reconfigured PSI-SF Behavioural*

*Regulation Scores*

Variable	Mothers			Fathers		
	<i>B</i>	<i>SE B</i>	<i>B*</i>	<i>B</i>	<i>SE B</i>	<i>B*</i>
Child	0.000	0.002	0.002	0.000	0.002	-0.003
Age						
Child Sex	0.037	0.064	0.015	0.015	0.077	0.006
SES	0.000	0.000	-0.014	-0.000	0.000	-0.016
Vineland	-0.004	0.003	-0.043	0.001	0.004	0.011
CARS	<b>0.036</b>	0.007	0.177	<b>0.043</b>	0.008	0.219
<i>R</i> <sup>2</sup>	0.043			0.041		
<i>F</i>	<b>12.984</b>			<b>8.990</b>		

*Note.* Bold indicates statistical significance  $p < .001$ ; *B\** represents standardized regression slope

**Table 50**

*Summary of Regression Analyses for Variables Predicting Reconfigured PSI-SF Reciprocity*

*Scores*

Variable	Mothers			Fathers		
	<i>B</i>	<i>SE B</i>	<i>B*</i>	<i>B</i>	<i>SE B</i>	<i>B*</i>
Child	-0.003	0.002	-0.049	<b>-0.005</b>	0.002	-0.079
Age						
Child Sex	0.089	0.053	0.043	0.055	0.065	0.026
SES	0.000	0.000	-0.011	-0.000	0.000	-0.050
Vineland	<b>-0.012</b>	0.002	-0.162	<b>-0.016</b>	0.003	-0.222
CARS	<b>0.025</b>	0.006	0.143	<b>0.025</b>	0.007	0.143
<i>R</i> <sup>2</sup>	0.073			0.105		
<i>F</i>	<b>22.795</b>			<b>21.831</b>		

*Note.* Bold indicates statistical significance  $p \leq .02$ ; *B\** represents standardized regression slope

**Table 51**

*Summary of Regression Analyses for Variables Predicting Reconfigured PSI-SF Child Limits*

*Scores*

Variable	Mothers			Fathers		
	<i>B</i>	<i>SE B</i>	<i>B*</i>	<i>B</i>	<i>SE B</i>	<i>B*</i>
Child	<b>-0.006</b>	0.002	-0.087	<b>-0.005</b>	0.002	-0.083
Age						
Child Sex	0.038	0.055	0.017	-0.109	0.068	-0.048
SES	<b>0.000004</b>	0.000	0.066	<b>0.000005</b>	0.000	0.074
Vineland	<b>-0.019</b>	0.003	-0.239	<b>-0.020</b>	0.003	-0.252
CARS	<b>0.046</b>	0.006	0.245	<b>0.041</b>	0.007	0.219
<i>R</i> <sup>2</sup>	0.182			0.172		
<i>F</i>	<b>64.202</b>			<b>38.815</b>		

*Note.* Bold indicates statistical significance  $p < .02$ ; *B\** represents standardized regression slope

**Table 52**

*Summary of Regression Analyses for Variables Predicting Reconfigured PSI-SF Perceived*

*Disagreeable Behaviour Scores*

Variable	Mothers			Fathers		
	<i>B</i>	<i>SE B</i>	<i>B*</i>	<i>B</i>	<i>SE B</i>	<i>B*</i>
Child	<b>0.008</b>	0.002	0.110	<b>0.008</b>	0.002	0.123
Age						
Child Sex	-0.050	0.067	-0.019	-0.076	0.079	-0.031
SES	0.000	0.000	0.002	0.000	0.000	0.002
Vineland	<b>-0.008</b>	0.003	-0.092	-0.006	0.004	-0.071
CARS	<b>0.024</b>	0.007	0.113	<b>0.032</b>	0.008	0.154
<i>R</i> <sup>2</sup>	0.054			0.068		
<i>F</i>	<b>16.267</b>			<b>13.561</b>		

*Note.* Bold indicates statistical significance  $p < .01$ ; *B\** represents standardized regression slope

**Table 53**

*Summary of Regression Analyses for Variables Predicting Reconfigured F-COPES Social*

*Support from Friends and Family Scores*

Variable	Mothers			Fathers		
	<i>B</i>	<i>SE B</i>	<i>B*</i>	<i>B</i>	<i>SE B</i>	<i>B*</i>
Child	<b>-0.004</b>	0.002	-0.065	-0.002	0.002	-0.024
Age						
Child Sex	0.047	0.065	0.020	0.125	0.084	0.052
SES	-0.000	0.000	-0.026	-0.000	0.000	-0.025
Vineland	-0.002	0.003	-0.019	-0.001	0.004	-0.018
CARS	-0.005	0.007	-0.029	0.002	0.009	0.009
<i>R</i> <sup>2</sup>	0.005			0.004		
<i>F</i>	1.327			0.690		

*Note.* Bold indicates statistical significance  $p < .05$ ; *B\** represents standardized regression slope

**Table 54**

*Summary of Regression Analyses for Variables Predicting Reconfigured F-COPES Self-Efficacy*

*Scores*

Variable	Mothers			Fathers		
	<i>B</i>	<i>SE B</i>	<i>B*</i>	<i>B</i>	<i>SE B</i>	<i>B*</i>
Child	0.002	0.002	0.034	0.000	0.002	-0.005
Age						
Child Sex	0.034	0.053	0.018	0.075	0.067	0.039
SES	-0.000	0.000	-0.006	0.000	0.000	0.016
Vineland	0.003	0.002	0.047	0.002	0.003	0.024
CARS	-0.002	0.005	-0.015	0.002	0.007	0.010
<i>R</i> <sup>2</sup>		0.004			0.002	
<i>F</i>		0.944			0.349	

*Note.* *B\** represents standardized regression slope

**Table 55**

*Summary of Regression Analyses for Variables Predicting Reconfigured F-COPES Religious*

*Participation/Coping Scores*

Variable	Mothers			Fathers		
	<i>B</i>	<i>SE B</i>	<i>B*</i>	<i>B</i>	<i>SE B</i>	<i>B*</i>
Child	0.004	0.003	0.045	0.001	0.003	0.013
Age						
Child Sex	-0.047	0.087	-0.014	-0.064	0.113	-0.019
SES	<b>-0.00001</b>	0.000	-0.171	<b>-0.00002</b>	0.000	-0.187
Vineland	<b>-0.015</b>	0.004	-0.141	<b>-0.024</b>	0.005	-0.210
CARS	-0.014	0.009	-0.056	-0.022	0.012	-0.081
<i>R</i> <sup>2</sup>		0.051			0.071	
<i>F</i>		<b>14.268</b>			<b>12.656</b>	

*Note.* Bold indicates statistical significance  $p < .001$ ; *B\** represents standardized regression slope

**Table 56**

*Summary of Regression Analyses for Variables Predicting Reconfigured F-COPES*

*Passive/Avoidant Coping Scores*

Variable	Mothers			Fathers		
	<i>B</i>	<i>SE B</i>	<i>B*</i>	<i>B</i>	<i>SE B</i>	<i>B*</i>
Child	<b>-0.004</b>	0.002	-0.066	-0.004	0.002	-0.063
Age						
Child Sex	0.014	0.060	0.006	-0.064	0.076	-0.029
SES	<b>0.000009</b>	0.000	0.143	<b>0.000007</b>	0.000	0.115
Vineland	<b>0.011</b>	0.003	0.151	<b>0.009</b>	0.003	0.122
CARS	0.005	0.006	0.030	0.009	0.008	0.050
<i>R</i> <sup>2</sup>		0.052			0.036	
<i>F</i>		<b>14.513</b>			<b>6.217</b>	

*Note.* Bold indicates statistical significance  $p < .05$ ; *B\** represents standardized regression slope

**Table 57**

*Summary of Regression Analyses for Variables Predicting Reconfigured F-COPES Formal*

*Supports Scores*

Variable	Mothers			Fathers		
	<i>B</i>	<i>SE B</i>	<i>B*</i>	<i>B</i>	<i>SE B</i>	<i>B*</i>
Child	-0.002	0.002	-0.033	-0.003	0.002	-0.043
Age						
Child Sex	-0.016	0.061	-0.007	0.067	0.080	0.029
SES	-0.000	0.000	-0.031	-0.000	0.000	-0.060
Vineland	-0.005	0.003	-0.061	-0.006	0.004	-0.072
CARS	-0.008	0.006	-0.043	-0.006	0.008	-0.034
<i>R</i> <sup>2</sup>		0.003			0.008	
<i>F</i>		0.894			1.358	

*Note.* *B\** represents standardized regression slope

**Table 58**

*Summary of Regression Analyses for Variables Predicting Reconfigured F-COPES Support from Neighbours Scores*

Variable	Mothers			Fathers		
	<i>B</i>	<i>SE B</i>	<i>B*</i>	<i>B</i>	<i>SE B</i>	<i>B*</i>
Child Age	-0.002	0.002	-0.020	0.001	0.003	0.015
Child Sex	0.088	0.074	0.033	<b>0.204</b>	0.089	0.079
SES	-0.000	0.000	-0.038	-0.000	0.000	-0.030
Vineland	-0.005	0.003	-0.055	-0.001	0.004	-0.009
CARS	0.000	0.008	-0.002	0.000	0.009	-0.002
<i>R</i> <sup>2</sup>	0.005			0.008		
<i>F</i>	1.391			1.347		

*Note.* Bold indicates statistical significance  $p < .05$ ; *B\** represents standardized regression slope

**Table 59**

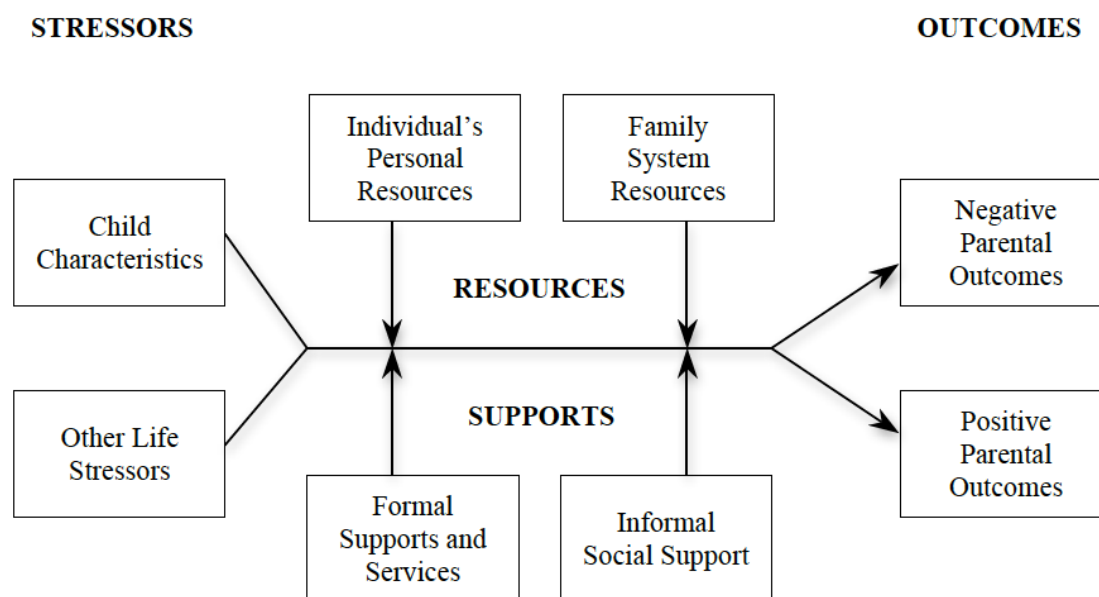
*Summary of Regression Analyses for Variables Predicting Reconfigured F-COPES Acceptance Scores*

Variable	Mothers			Fathers		
	<i>B</i>	<i>SE B</i>	<i>B*</i>	<i>B</i>	<i>SE B</i>	<i>B*</i>
Child Age	-0.001	0.002	-0.017	0.001	0.002	-0.013
Child Sex	-0.040	0.064	-0.018	-0.044	0.079	-0.019
SES	-0.000	0.000	-0.031	-0.000	0.000	0.000
Vineland	-0.003	0.003	-0.042	0.001	0.004	0.017
CARS	-0.003	0.006	-0.014	0.010	0.008	0.053
<i>R</i> <sup>2</sup>	0.002			0.003		
<i>F</i>	0.616			0.440		

*Note.* *B\** represents standardized regression slope

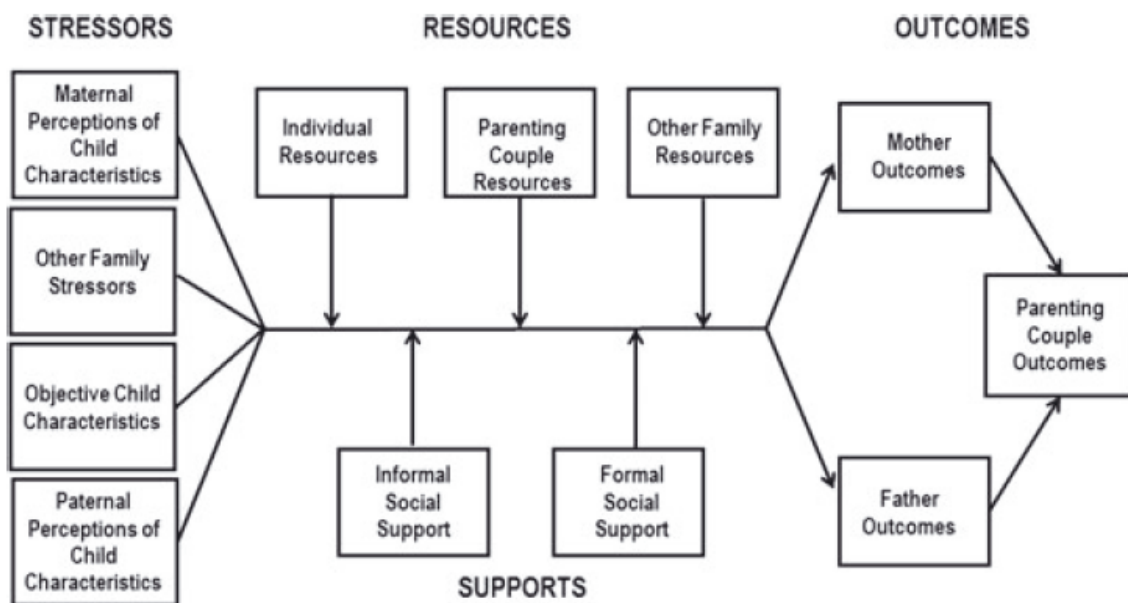
**Appendix B: Figures****Figure 1**

*Perry's (2004) Model of Stress in Families of Children with Developmental Disabilities*

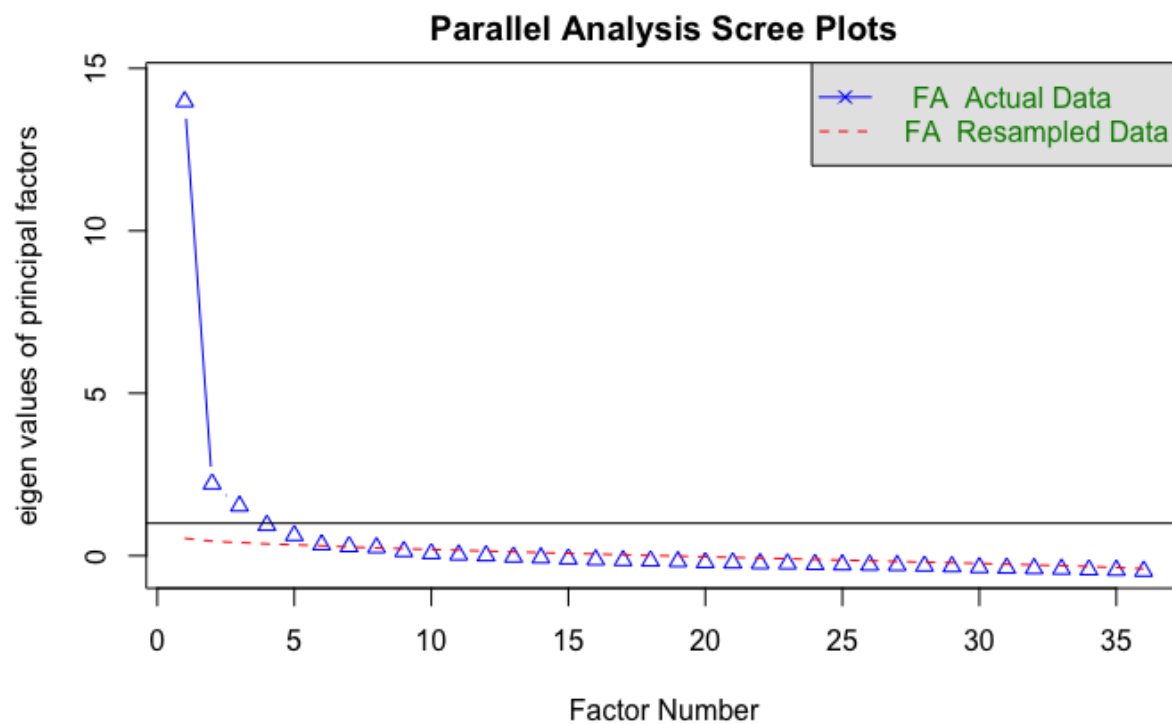


**Figure 2**

*Bluth et al. (2013) Parents of Children with ASD Stress Model*

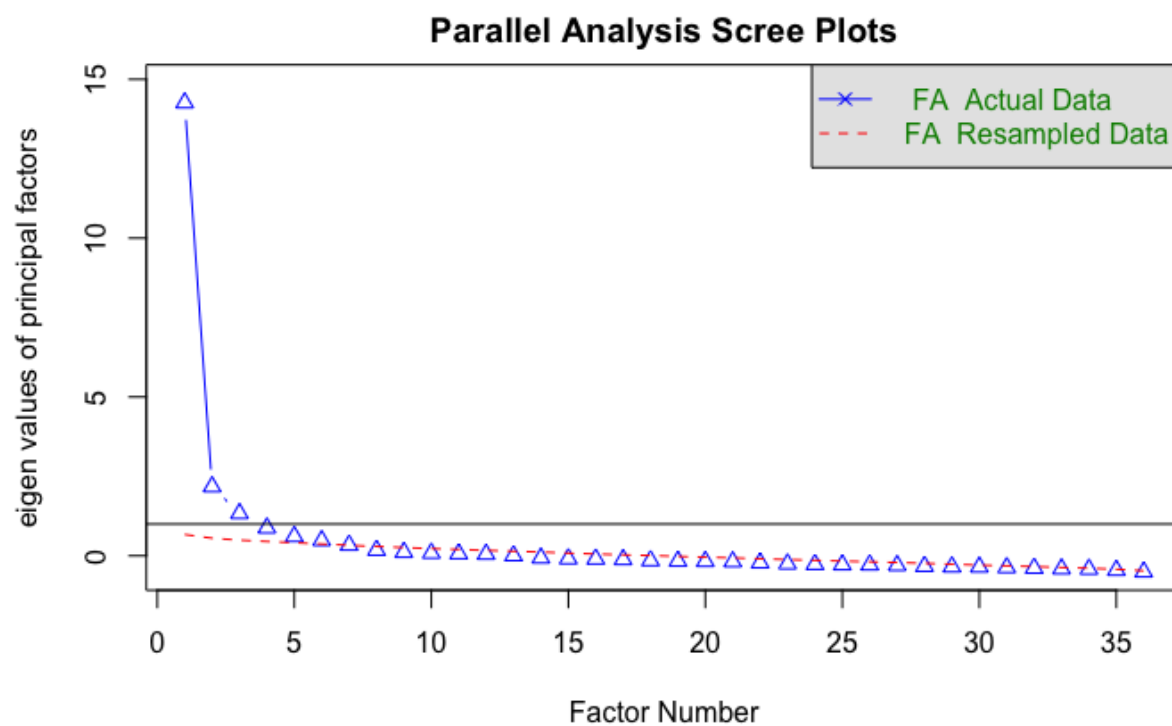


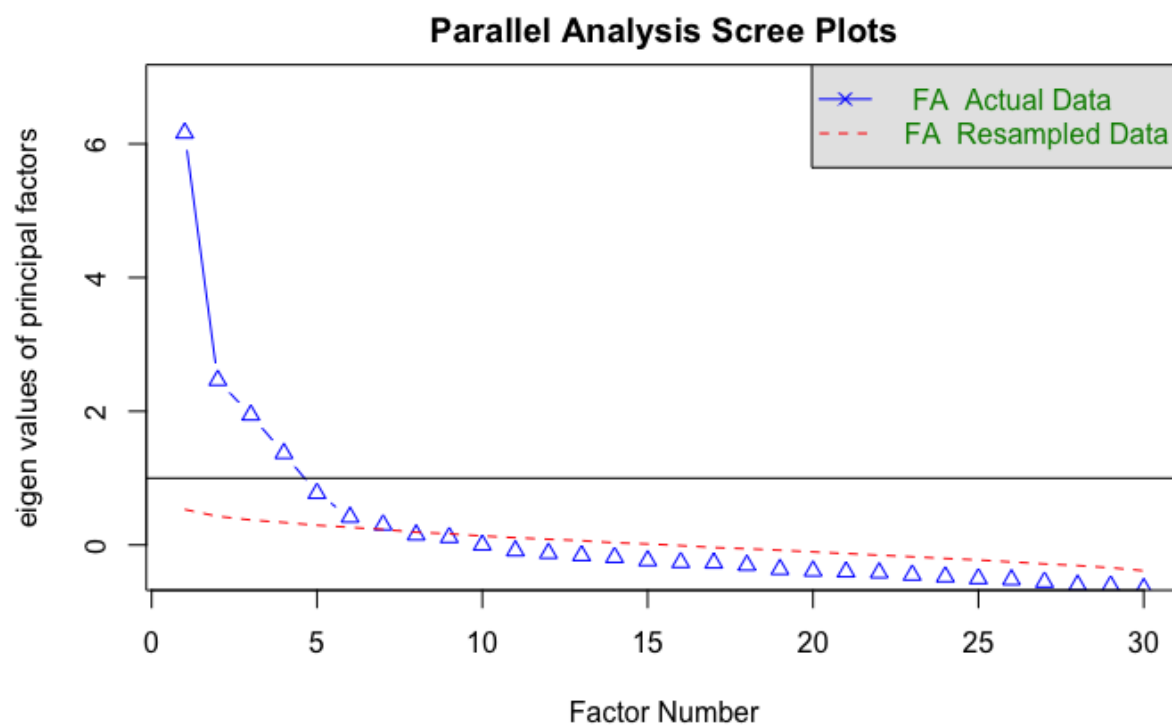


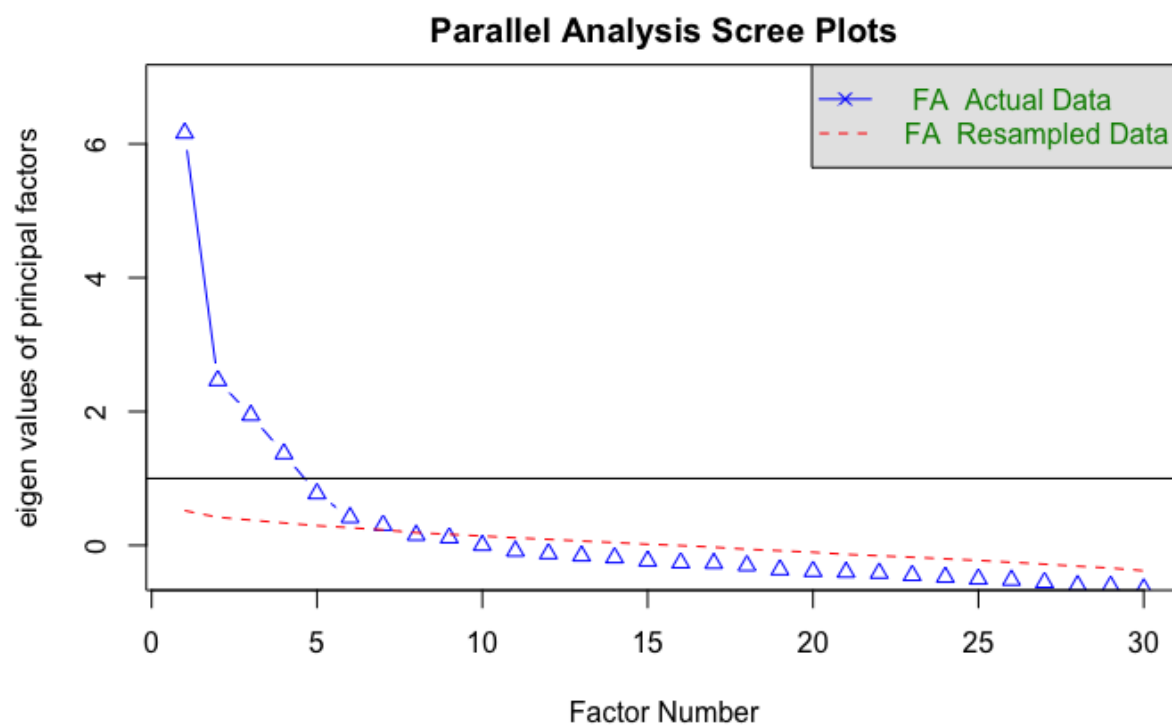
**Figure 3***Scree Plot of Mothers' PSI-SF Sample A*

**Figure 4**

*Scree Plot of Fathers' PSI-SF Sample A*



**Figure 5***Scree Plot of Mothers' F-COPES Sample A*

**Figure 6***Scree Plot of Fathers' F-COPES Sample A*

## Appendix C: Questionnaires

### Parenting Stress Index – Short Form

Rating scale (unless otherwise noted): Strongly Agree, Agree, Not sure, Disagree, Strongly disagree

1. I often have the feeling that I cannot handle things very well.
2. I find myself giving up more of my life to meet my children's needs than I ever expected.
3. I feel trapped by my responsibilities as a parent.
4. Since having this child, I have been unable to do new and different things.
5. Since having a child, I feel that I am almost never able to do things that I like to do.
6. I am unhappy with the last purchase of clothing I made for myself.
7. There are quite a few things that bother me about my life.
8. Having a child has caused more problems than I expected in my relationship with my spouse (or male/female friend).
9. I feel alone and without friends.
10. When I go to a party, I usually expect not to enjoy myself.
11. I am not as interested in people as I used to be.
12. I don't enjoy things as I used to.
13. My child rarely does things for me that make me feel good.
14. Sometimes I feel my child doesn't like me and doesn't want to be close to me.
15. My child smiles at me much less than I expected.
16. When I do things for my child, I get the feeling that my efforts are not appreciated very much.
17. When playing, my child doesn't often giggle or laugh.
18. My child doesn't seem to learn as quickly as most children.
19. My child doesn't seem to smile as much as most children.
20. My child is not able to do as much as I expected.
21. It takes a long time and it is very hard for my child to get used to new things.

For the next statement, choose your response from the choices "1" to "5" below.

22. I feel that I am:
  - 1) not very good at being a parent
  - 2) a person who has some trouble being a parent
  - 3) an average parent
  - 4) a better than average parent
  - 5) a very good parent
23. I expected to have closer and warmer feelings for my child than I do and this bothers me.
24. Sometimes my child does things that bother me just to be mean.
25. My child seems to cry or fuss more often than most children.
26. My child generally wakes up in a bad mood.
27. I feel that my child is very moody and easily upset.
28. My child does a few things which bother me a great deal.
29. My child reacts very strongly when something happens that my child doesn't like.
30. My child gets upset easily over the smallest thing.

31. My child's sleeping or eating schedule was much harder to establish than I expected.

For the next statement choose your response from the choices "1" to "5" below.

32. I have found that getting my child to do something or stop doing something is:

- 1) much harder than I expected
- 2) somewhat harder than I expected
- 3) about as hard as I expected
- 4) somewhat easier than I expected
- 5) much easier than I expected

For the next statement, choose your response from the choices "10+", "8-9", "6-7", "4-5", "1-3"

33. Think carefully and count the number of things which your child does that bother you.

34. There are some things my child does that really bother me a lot.

35. My child turned out to me more of a problem than I had expected.

36. My child makes more demands on me than most children.

## Family Crisis Oriented Personal Evaluation Scales

Rating scale: Strongly disagree, Moderately disagree, Neither agree nor disagree, Moderately agree, Strongly agree

When we face problems or difficulties in our family we respond by:

1. Sharing our difficulties with relatives
2. Seeking encouragement and support from friends
3. Knowing we have the power to solve major problems
4. Seeking information and advice from persons in other families who have faced the same or similar problems
5. Seeking advice from relatives (grandparents, etc.)
6. Seeking assistance from community agencies and programs designed to help families in our situation
7. Knowing that we have the strength within our own family to solve our problems
8. Receiving gifts and favors from neighbors (e.g., food, taking in mail, etc.)
9. Seeking information and advice from the family doctor
10. Asking neighbors for favors and assistance
11. Facing the problems "head-on" and trying to get solutions right away
12. Watching television
13. Showing that we are strong
14. Attending church [or religious] services
15. Accepting stressful events as a fact of life
16. Sharing concerns with close friends
17. Knowing luck plays a big part in how well we are able to solve family problems
18. Exercising with friends to stay fit and reduce tension
19. Accepting that difficulties occur unexpectedly
20. Doing things with relatives (get-togethers, dinners, etc.)
21. Seeking professional counseling and help for family difficulties
22. Believing we can handle our own problems
23. Participating in church [or other religious] activities
24. Defining the family problem in a more positive way so that we do not become too discouraged
25. Asking relatives how they feel about problems we face
26. Feeling that no matter what we do to prepare, we will have difficulty handling problems
27. Seeking advice from a minister [or religious leader]
28. Believing If we wait long enough, the problem will go away
29. Sharing problems with neighbors
30. Having faith in God